

Abstracts of Presentations Made at Virtual SLS MIS2020 August 26 – September 17, 2020

THURSDAY, AUGUST 27, 2020 GENERAL SURGERY PRESENTATIONS

JLSL 20-001

★ *Medical Educator Consortium Award for Best Scientific Paper*

CORRELATION BETWEEN STAGING WITH PREOPERATIVE MAGNETIC RESONANCE IMAGING (MRI) AND TRANSANAL MINIMAL INVASIVE SURGERY (TAMIS) SPECIMEN PATHOLOGY

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Objective: No data has yet been published correlating preoperative MRI staging and final TAMIS specimen pathology. The objective of this study is to report on such correlation.

Methods and Procedures: All cases which were subjected to both MRI staging as well as TAMIS excision were identified. All 187 identified cases were retrospectively analyzed. The cases were performed between 2012–2019.

Results: Only 39% (72/186) of cases resulted in MRI and pathological correlation. 44% (83/186) of cases resulted in MRI over-staging. 16% (29/186) of cases resulted in MRI under-staging. 1% (2/186) of cases resulted in alternate non-suspected pathology (prostate cancer, inflammatory tissue containing staples).

Conclusion: Only 39% of cases resulted in perfect correlation. 44% of cases were over-staged by MRI, which could inadvertently result in eventual over-treatment. Judicious use of TAMIS excision for staging could help in reducing over-treatment.

JLSL 20-002

THE RISE OF MINIMALLY INVASIVE SURGERY: 16 YEAR ANALYSIS OF THE PROGRESSIVE REPLACEMENT OF OPEN SURGERY WITH LAPAROSCOPY

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Objective: The expansion of Minimally Invasive Surgery (MIS) has been exponential since the introduction of laparoscopic surgery in the late 1980s. This shift in operative technique has led many to believe that surgery residents are not developing the skills needed to adequately perform open operations.

Methods: We performed a retrospective review of the Accreditation Council for Graduating Medical Education (ACGME) national operative case log database of general surgery residents from 2003 to 2019. We

compared the open vs. laparoscopic case numbers for five different operations, including cholecystectomy, appendectomy, colectomy, gastrectomy, and Nissen fundoplication. The Cochran-Armitage test was used to assess the linear trend in the procedures performed.

Results: Total average residency case volumes for the procedures studied have increased from 270 to 368 (36%) over the 16-year period with MIS steadily representing a greater proportion of these cases. From 2003 to 2018, MIS representation increased in all studied procedures: cholecystectomy (88% to 94%, $p = 0.048$), inguinal hernia repair (20% to 47%, $p < 0.001$), appendectomy (38% to 93%, $p < 0.001$), colectomy (8% to 43%, $p < 0.001$), gastrectomy (43% to 84%, $p = 0.048$), and Nissen (71% to 91%, $p = 0.21$).

Conclusion: While the overall operative volume has increased nationally for surgical residents, the representation of open cases has steadily declined since the advent of MIS. The experience needed in open surgery during resident training is still to be determined and may be necessary now that laparoscopy is progressively replacing open operations.

JLSL 20-003

PANCREATICODUODENECTOMY: WHICH METRIC(S) SUPPORTS APPLICATION OF THE ROBOTIC PLATFORM?

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Introduction: This study was undertaken to evaluate our results with robotic vs. 'open' pancreaticoduodenectomy to determine which metrics support robotic application to pancreaticoduodenectomy.

Methods: 2013–2018, we have transitioned from 'open' to robotic pancreaticoduodenectomy. We have prospectively followed all patients: 187 after 'open' and 200 after robotic pancreaticoduodenectomy. Data are presented as median.

Results: Patients undergoing 'open' vs. robotic pancreaticoduodenectomy were similar demographically. There were no significant differences in their exposure to neoadjuvant therapy (9% vs. 6%), AJCC stage, complication rate, in-hospital mortality, and 30-day readmission. EBL was less (350 ml vs. 200 ml, $p = 0.04$), operative duration longer (244 min vs. 411 min, $p < 0.01$), R0 resection rate was higher (85% vs. 73%, $p < 0.01$) and length of stay (LOS) shorter (8 days vs. 5 days, $p = 0.02$) with robotic pancreaticoduodenectomy. Patients after both approaches had a similar time-to-treat with adjuvant chemotherapy. After the robotic approach, 38% discontinued adjuvant treatment due to 'intolerance' vs. 56% after the 'open' approach ($p < 0.01$). Median survival for patients undergoing robotic PD was 32 months vs. 17 months for patients undergoing 'open' PD ($p = 0.06$).

Conclusions: Patients undergoing robotic vs. 'open' pancreaticoduodenectomy had a shorter LOS, less operative blood loss, and prospects for longer survival but, despite many similarities, had longer operations and did not have a lower complication rate, lower in-hospital mortality, lower 30-day readmission rate, or shorter time-to-treat for adjuvant therapy, though they were more likely to complete adjuvant therapy. Though there is great enthusiasm accompanying application of the robotic platform to pancreaticoduodenectomy, objective metrics fully supporting this enthusiasm must be sought.

JLSL 20-004

DOES THIS SLEEVE EQUAL THAT SLEEVE? FAILURES AND REFLECTIONS

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DOI: 10.4293/JLSL.2020.00117

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Introduction: Sleeve gastrectomy is a very popular bariatric procedure. However, there is no standardization of the technique. We present our experience with failed sleeves.

Method: 114 cases of failed sleeves were revised to gastric bypass due to lack of weight loss, relapsing diabetes or other unbearable symptoms.

Results: 72 females and 42 males ($n = 114$) were included. Reasons for revision were as follows: 64 had weight regain (BMI > 60), of whom 14 also had persistent diabetes. 38 had weight regain (BMI < 60). 1 had a twisted sleeve, severe vomiting and malnutrition. 6 had relapsing diabetes and 5 severe reflux with weight regain. 1–6 years post revision, all 64 patients (BMI > 60) had a BMI of 22–29. The 38 patients (BMI < 60) had a BMI of 23–32. Of the 20 diabetic patients, BMI was 24–31 with cessation of all diabetic medications. The patient with a twisted sleeve obtained a BMI of 23 with resolution of vomitus. In the 5 patients with severe reflux, BMI was 24–30 with cessation of their reflux. Of the 114 patients, 64 of the sleeves-to-bypass revisions were from our practice. The remainder revisions were referred.

Conclusion: We found sleeve to gastric bypass revisions can be done successfully with weight loss, resolution of type 2 diabetes and the other aforementioned intolerable symptoms. However, there was variability in the size of bougie used and the amount of residual antrum observed in sleeves during the revision. It is time to standardize laparoscopic sleeve gastrectomy to accurately quantify and assess the long-term success of sleeves.

JLSLS 20-005

WHICH CHOLECYSTECTOMY DO RESIDENTS AND SURGEONS PREFER?

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Objective: This study was performed to identify which minimally invasive technique surgeons, residents and fellows prefer for a hypothetical elective cholecystectomy due to gallstones and what factors determine their decision.

Methods: Surgeons, residents and fellow from different countries answered an online questionnaire that was posted on closed surgical groups on Facebook® and WhatsApp®. The questions were about hypothetical situations in which the participants would be submitted to elective cholecystectomy.

Results: 453 surgeons and 147 residents/fellows answered the questionnaire. Among residents/fellows, 115 (78.2%) were male and 32 (21.8%) were female. In the surgeons' group, 397 (87.6%) were male and 56 (12.4%) were female. When minilaparoscopy, conventional laparoscopy or robotic surgery were the only options for their elective cholecystectomy, 58.5% of residents and 45.7% of surgeons chose conventional laparoscopy ($p = 0.026$) When asked if they would consider a single incision laparoscopic procedure or NOTES, 549 (91.5%) answered no. When asked to rank which factors they would consider more important in choosing the surgical technique, the surgeons' experience was first (51.83%) and safety of the procedure was the second most important factor (45%). When asked which surgical technique they would prefer in the hypothetical situation where all techniques were equally safe, the majority chose conventional laparoscopy (46%) and minilaparoscopy 26.67% ($p = 0.007$); The

preference for conventional laparoscopy was strongest among residents (52.38%).

Conclusions: When residents and surgeons were asked to select a surgical approach for cholecystectomy, most chose conventional laparoscopy. Both residents and surgeons ranked surgeons' experience as the most important factor.

JLSLS 20-006

ROBOTIC INGUINAL HERNIA REPAIR - AN EXPERIENCE OF 233 CASES WITH ANALYSIS

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Objective: The robotic approach for inguinal hernia repair has advantages over the standard laparoscopic approach due to improved dexterity and high definition visualization. The objective of this study is to evaluate the outcomes and learning curve for robotic inguinal hernia repairs.

Methods and Procedures: Robotic inguinal hernia operations were undertaken between 2015 and 2019. Data are presented as median (mean, \pm standard deviation).

Results: Three hundred and ten inguinal hernia repairs were undertaken in 233 patients. Unilateral repairs were undertaken in 156 patients and bilateral repairs in 77 patients. Age was 61 years (60, \pm 14.8) and 92% (214) were men. The overall BMI was 27 (28, \pm 5.0). The operative time for unilateral and bilateral repairs was 53 (56, \pm 23.2) and 71 minutes (80, \pm 36.9), respectively. There were 13 recurrences, 6 (3.8%) after unilateral and 7 (4.5%) after bilateral repairs. In unilateral repairs, operations 1–40 (the initial phase) had higher recurrence and operative time compared to operations 41–156 (the proficient phase). The operative time was 61 minutes for the initial phase and 51 minutes for the proficient phase of unilateral repairs ($p = 0.04$). The operative time remained unchanged for bilateral repairs. Postoperative complications were seen in 31 (13%) cases. Complications included urinary retention (12), seroma/hematoma (11), surgical site infection (6), and intraoperative injuries (vas deferens - 1, enterotomy - 1).

Conclusion: Robotic inguinal hernia repair is technically feasible and safe with a low recurrence rate. Proficiency for robotic inguinal hernia repairs can be reached after 40 operations.

JLSLS 20-007

COMBINED LAPAROSCOPIC FUNDOPLICATION AND SIGMOID COLECTOMY IN A PATIENT WITH A LARGE PARAESOPHAGEAL HERNIA AND RECURRENT SIGMOID DIVERTICULITIS

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Background: Laparoscopy approach is preferred for treatment of paraesophageal hernia and complicated sigmoid diverticulitis. In patients with both disorders, it is unclear if combined surgery or a sequential approach is safer.

Case presentation: A 56 year old male in good health developed dysphagia, and GERD as well as recurrent left lower quadrant pain. He reported significant weight loss and very poor quality of life. Workup showed a large paraesophageal hernia and sigmoid diverticulitis. He was offered combined surgery for the two issues using a minimal invasive approach. He was placed in lithotomy, 5mm ports were placed in the left and right upper quadrant, subxiphoid and periumbilical and 10-12mm ports in the right lower abdomen. The hernia sack was mobilized from the mediastinum. The fundus was devascularized, the incision was followed laterally and the splenic flexure was completely mobilized. The hiatus was closed, a Nissen fundoplication was created.

The sigmoid colon was mobilized, the mesentery was divided, the rectum was stapled and through a Pfannenstiel incision the colon was resected and a circular stapled colorectal anastomosis was created. Total operative time was 270 minutes, blood loss was 60ml.

Postoperative swallow showed no leak or stenosis, bowel function restored within 48 hours and the patient was discharged on day 7. He had an uneventful recovery and much improved quality of life.

Discussion: To the best of our knowledge a combined laparoscopic fundoplication and colon resection has not been described thus far. The case confirms that advanced laparoscopic procedures can be safely combined.

JLSL 20-008

FAMILY HISTORY OF GERD DOES NOT PREDICT ANTI-REFLUX SURGERY OUTCOMES OR THE NEED FOR REDO SURGERY

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Objective: We compared the role of family history of GERD to the need for anti-reflux surgery (ARS). Pertinent family history was obtained, and we focused on the relationship of patients who pursued ARS, their outcomes, and whether they needed redo ARS.

Methods and Procedures: A prospectively gathered IRB approved registry for patients undergoing ARS was queried from January 2014 to December 2018. Inclusion criteria was objectively confirmed GERD or paraesophageal hernia. Subjects were excluded for failure to obtain a complete family history. Patients with positive family history were compared to the control group of negative family history. GERD-HRQL scores were used to assess surgery outcomes which were obtained preoperatively and 6 and 12 months post-operatively. Subset analysis of study and control groups were further divided into primary repair versus redo surgery. Statistical analysis was performed using t-test.

Results: 299 patients with objectively confirmed GERD and complete family history were identified. 172 (58%) patients reported positive family history for GERD out of which 91 (53%) underwent ARS. 127 (42%) patients reported negative family history out of which 59 (46%) underwent ARS. No significant difference in GERD-HRQL scores between the groups was found preoperatively and at follow-up indicating family history was not a factor. There was no significant difference in primary versus redo surgery with regard to family history.

Conclusion: We found that more patients with positive family history undergo ARS than patients without. Outcomes of ARS and need for primary versus redo surgery are not affected by family history.

JLSL 20-009

MINIMALLY INVASIVE SURGICAL TREATMENT OF ESOPHAGEAL ACHALASIA: THE NATURAL EVOLUTION OF ROBOTIC HELLER MYOTOMY AND DOR FUNDOPLICATION

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Objective: Laparoscopic Heller myotomy and Dor fundoplication has become the gold standard in treating esophageal achalasia. Robotic surgical platform represents its natural evolution. Durable excellent long-term clinical outcome represents the main objective measure in our cohort.

Methods and Procedures: Between June 1999 to June 2019, 111 patients underwent minimally invasive surgical treatment for achalasia (96 laparoscopically and 15 robotically). Fifty-two were males. Mean age was 49 years (20–96). Esophageal manometry confirmed the diagnosis. Fifty patients underwent pH monitoring study, with pathologic reflux in 18. Preoperative esophageal dilation was performed in 76 patients and 21 patients received botulin injection. Dysphagia was universally present, and mean duration was 96 months (5–480).

Results: Mean operative time was 144 minutes (90–200). One patient required conversion to open approach. Four mucosal perforations occurred in the laparoscopic group, and repaired intraoperatively. Seven patients underwent completion esophageal myotomy and added Dor fundoplication. Upper gastrointestinal series was performed in every patient before discharge. Mean hospital stay was 39 hours (24–312). Mean follow up was 157 months (6–240) and dysphagia was resolved in 94% of patients. Seven patients required postoperative esophageal dilation.

Conclusions: Minimally Invasive Heller myotomy and Dor fundoplication are feasible. The operation is challenging, but excellent results hinge on the operative techniques and experience. The high dexterity, the 3D view and the ergonomic movements of robotic surgery, allow the esophageal surgeon to apply all the technical elements, achieving the best durable outcome for the patient. Robotic surgery is the natural evolution of minimally invasive treatment of esophageal achalasia.

JLSL 20-010

REDUCTION OF SERUM CRP LEVELS IN MORBIDLY OBESE PATIENTS UNDERGOING LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS: A 10-YEAR FOLLOW-UP

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Introduction: Morbid obesity is associated with a chronic inflammatory state, which is often demonstrated by increased C-reactive protein (CRP) levels. In this study, we examine the long-term effect of laparoscopic Roux-en-Y bypass (LRYGB) performed for weight loss on CRP levels in patients over ten years.

Methods: All patients met the NIH eligibility criteria for bariatric surgery and were operated by a single surgeon (PG) in a single institution between June 2006 and April 2012. Serum CRP levels were obtained prior to procedure and were postoperatively recorded every year for ten years.

Results: Sixty-five morbidly obese patients (average age 41.3 ± 11.5 years, average BMI 48.3 ± 7.7 kg/m²) were included in the analysis, of whom the majority (57/65, 87.7%) had elevated CRP levels at baseline. Significant reduction of serum CRP levels occurred postoperatively, with 34/48 (70.8%) of patients demonstrating normal CRP levels one year after surgery (average CRP 11.5 ± 8.3 to 2.4 ± 2.1 , $p < 0.001$). This effect was sustained through ten years of follow-up, with 10/11 (90.9%) of patients having normal CRP levels at the ten-year mark (mean change in CRP -8.7 ± 6.6 , $p = 0.001$). Mean BMI was correspondingly reduced over ten years (43.3 ± 7.7 to 34.4 ± 7.9 , $p < 0.001$).

Conclusion: CRP levels were promptly and effectively reduced in patients up to ten years postoperatively following LRYGB. This suggests that bariatric surgery causes favorable and sustainable reduction in CRP, a known inflammatory marker.

JLS 20-011

LAPAROSCOPIC GIANT TYPE IV PARAESOPHAGEAL HERNIA REPAIR WITH GASTROPEXY

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Objective: Currently, the common approach for repair of a giant paraesophageal hernia (GPEH) is a laparoscopic transabdominal repair with Nissen fundoplication. Here we present a case as an instructional video which demonstrates our approach to the gastropexy as an effective alternative technique.

Methods and Procedures: The patient is placed in supine position, with deep reverse Trendelenburg. Four 5-mm and one 10-15mm laparoscopic ports are placed. Left lateral liver is retracted and operation begins with reduction of the hernia sac from the mediastinum. The hernia sac is dissected with complete mobilization of the esophagus from the inferior pulmonary vein to the gastroesophageal junction with a fat pad dissection. The greater curvature of the stomach is mobilized and short gastric vessels divided. The left and right crura are exposed with care to preserve the peritoneal lining. After adequate length of intra-abdominal esophagus is obtained, the gastropexy is performed with special attention toward recreation of the angle of His.

Results: Patient's post-operative course was uncomplicated, and she was discharged on POD7. She was seen on follow-up at 1 month, 6 months, and 12 months noted tolerance of diet without return of symptoms. Esophagram at each follow-up visit showed adequate antegrade flow without reflux. Follow-up CT at 1 year was negative for hernia. PFTs at 1 year showed FVC 1.71 to 2.23, FEV1/FVC ratio 71% to 88%, TLC 3.2 to 4.2, DLCO 4.28 to 13.35.

Conclusion: Gastropexy can provide a safe and effective long-term option for management of giant type IV paraesophageal hernia repairs.

JLS 20-012

ROBOTIC SINGLE PORT (SP) TAPP INGUINAL HERNIA REPAIR: DEMONSTRATION OF APPROACH

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Objective: The newly introduced robotic single port surgical platform offers significant benefits over some of the limitations of the previous Single Site (SS) robotic surgery platform. The SP platform is equipped with stronger endowristed and elbowed robotic instruments, which allow greater dexterity in an enclosed space. We present a video of a Transabdominal Preperitoneal (TAPP) inguinal hernia repair utilizing the novel robotic platform.

Methods and Procedures: A 79-year-old man with a history of hypertension, coronary artery disease, and multiple previous abdominal surgeries was evaluated for a symptomatic indirect right inguinal hernia. He consented for a TAPP inguinal hernia repair and underwent standard preoperative clearance. The single port system was docked through a 2.5cm periumbilical incision, and a TAPP inguinal hernia repair with mesh was completed successfully. Operative milestone times were recorded throughout the case.

Results: The TAPP inguinal hernia repair was successfully completed from skin-to-skin in 64 minutes. Of this time, 9 minutes were spent making the incision and docking the robot, 37 minutes to complete the procedure on the console, and 18 minutes to close the fascia/skin. The patient was discharged from recovery the same day.

Conclusion: The single port surgical system is a safe and feasible technology for performing a TAPP inguinal hernia repair. The repair

can be performed with favorable operative times in contrast to our multiport technique while further limiting surgical trauma. Additional surgical studies will need to be completed to make definitive comparisons to other techniques.

JLS 20-013

LAPAROSCOPIC REPAIR OF GIANT HIATAL HERNIA WITH MESH REINFORCEMENT, FUNDOPLICATION AND GJ TUBE PLACEMENT

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We present a case of 64 year old gentleman with developmental disorder. He has been aphasic since birth but recently he has not been able to tolerate any food because of a Giant Hiatal Hernia. He has had multiple admission for aspiration pneumonia as well. After careful deliberation he was taken to the operating room. He underwent a laparoscopic reduction of the giant hiatal hernia. His crura was approximated and reinforced with absorbable mesh, both anterior and posterior to the esophagus. He also had an Nissen fundoplication as an antireflux procedure. A laparoscopic GastroJejunostomy tube was placed. He was started on jejunal feeds and discharged to a group home. After 2 months a contrast study through the G tube did not show any gastro esophageal reflux after which the tube was changed to a regular G tube for supplementation. 1 year since then he has been doing well.

JLS 20-014

ROBOTIC EXTENDED RIGHT HEPATECTOMY, HEPATIC HILUM AND PORTAL LYMPHADENECTOMY FOR METASTATIC RECTAL CANCER

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Surgical resection of metastatic colorectal cancer to the liver is curative in some cases. Traditionally, these interventions required incisions that heavily influenced post-operative recovery. While these incision-dominant liver resections are generally considered the standard approach to curative resection, it is at the sacrifice of expedited patient recovery. The use of robotic minimally invasive surgery for hepatic resection offers superior visualization and an expedient post-operative course without sacrificing oncologic outcomes.

The patient had clinical stage T3N1M1 rectal cancer and had an objective response to neoadjuvant FOLFOX and bavacizumab. The middle hepatic vein was in close proximity to a 4 cm segment 8 lesion necessitating the extended hepatectomy. While preserving adequate hepatic inflow and maintaining adequate outflow, the patient was a candidate for a curative resection via an extended right hepatectomy. We first dissected the hepatic hilum and performed a portal lymphadenectomy providing exposure to the inflow. The right hepatic artery was then divided, followed by right anterior and posterior portal pedicle division. Next, parenchymal transection was used using a vessel sealing device and securing the major hepatic venous pedicles with a robotic stapler. The patient was ambulating post-operative day zero, tolerating a diet post-operative day two, and discharged post-operative day four.

This video demonstrates that a classically incision-dominant major liver resection may be done safely with a robotic approach, with superb visualization resulting in an expedited recovery; with the caveat that this should be reserved for appropriately selected patients and done by surgeons with experience in open techniques.

JSLS 20-015**LAPAROSCOPIC RESECTION FOR LOCALLY RECURRENT RECTAL CANCER****Shuichiro Matoba***Toranomon Hospital, Minato-ku, Tokyo, Japan***Background:** Locally recurrent rectal cancer (LRRC) is still a difficult hurdle in rectal cancer treatment.

Although resection of LRRC is invasive, laparoscopic surgery has recently developed and laparoscopic resection for LRRC was introduced in our hospital.

Objective: The Aim for this study is to assess the feasibility and safety of laparoscopic resection of LRRC.**Methods:** Patients who had undergone laparoscopic resection of LRRC in our hospital between January 2011 and December 2019 were included in this study.**Results:** There were 21 cases of laparoscopic resection of LRRC. 3 case recurred at the anastomosis site, 13 at the lateral site of pelvis, 9 were central. Surgical procedure were 3 total pelvic exenteration, 2 posterior pelvic exenteration, and 10 pelvic lateral lymph node resection, and 6 APR. R0 resection were achieved in 20 cases. (R0 resection rate was 95%.) Median operative time and blood loss was 350 minutes and 25 ml respectively. The number of patients with complications of Clavian-Dindo Grade of greater than III were seen in 2 cases.**Conclusion:** Although the follow-up is not long enough, laparoscopic resection of LRRC is safe and oncologically feasible. 3 cases from our series of LRRC will be demonstrated.**JSLS 20-016****TECHNICAL DETAILS OF ROBOTIC SINGLE PORT (SP) CHOLECYSTECTOMY****Yevhen Pavelko, Stephan Gruessner, Alberto Mangano, Valentina Valle, Alexander Banchs, Francesco Maria Bianco***University of Illinois at Chicago, Chicago, Illinois, USA***Introduction:** Robotic single site (SS) cholecystectomy has been proven to be safe and feasible but is lacking wide adoption. This may be due to non-endowristed and flexible instruments leading to a long learning curve. The new single port platform represents the latest technical improvement over the previous robotic single incision technology. We present the surgical technique of single port cholecystectomy.**Materials and Methods:** 45 y/o male, BMI 32.85 kg/m², otherwise healthy man, presented to our clinic with a one year history of intermittent, postprandial abdominal pain in the right upper quadrant. Pre-operative ultrasound revealed echogenic stones within the gallbladder and mild wall thickening. The patient was diagnosed with gallstone chronic cholecystitis and scheduled for a robotic assisted cholecystectomy using the robotic single port platform, under IRB approval.**Results:** The procedure was successfully performed without conversion or intraoperative complications. The operative time (skin-skin) was 36 minutes. The surgeon console time was 11 minutes. The estimated blood loss was 5 ml. The patient was discharged home 97 min after the surgery from the recovery room. There were no complaints during his follow-up appointments.**Conclusion:** The single port platform offers a more advanced set of instruments with safer control of the anatomy during dissection and exposure. The single port technology overcomes some of the limitations of the robotic SS platform, allowing for better visualization with a less tangential view and no external collisions. More experience is needed to understand the full potential of this new technology.**JSLS 20-017****LAPAROSCOPIC SPLENECTOMY FOR BLUNT ABDOMINAL TRAUMA IN DIFFICULT PATIENT POPULATION****Brian C. Temple,¹ Leaque Ahmed,¹ Jonathan Essa²**¹*Wyckoff Heights Medical Center, Brooklyn, NY, USA*²*Virginia Tech, Blacksburg, VA, USA***Objective:** To establish and demonstrate technical methods to perform a successful laparoscopic splenectomy after blunt abdominal trauma in a poorly compliant patient.**Methods and Procedures:** A 37 year-old male with past medical history of asthma, hepatitis C and IVDA presented with acute onset of left upper quadrant abdominal pain after injecting heroin. Approximately 1 week prior, patient admitted altercation which required suture to left brow and presumed index cause of abdominal trauma to the abdomen. Preoperative interventions included CT scan of the abdomen which revealed splenic rupture and various attenuations throughout the spleen, suggesting possible splenic abscess formation. Resuscitation in surgical intensive care unit overnight, cardiac evaluation for endocarditis and 2 units of blood were administered, optimizing patient for surgery.**Results:** Insufflation of the abdomen was obtained with verres needle and entry via 5mm optical trocar. The spleen was surrounded by dense clot and no evidence of active bleeding was identified. The spleen was successfully mobilized with an energy device and splenic pedicle ligated with a laparoscopic stapler. The specimen was extracted after being crushed in 15mm retrieval bag. Patient tolerated regular diet after surgery, remained hemodynamically stable and was discharged postoperatively day 1 following vaccine administration.**Conclusion:** Laparoscopic Splenectomy can be offered and performed successfully in the setting of splenic rupture secondary to blunt abdominal trauma even when dealing with difficult patient populations. Laparoscopic Splenectomy has been reported to minimize blood loss and require fewer transfusion, allowing difficult patient populations optimal outcomes.**JSLS 20-018****LAPAROSCOPIC JANEWAY GASTROSTOMY AFTER DISLODGEMENT OF PERCUTANEOUS GASTROSTOMY****Lisa Shimotake,¹ Indraneil Mukherjee,¹ Deepak Kalbi,¹ Adeel Shamim,¹ Karen E. Gibbs,¹ Alexander Bulanov²**¹*Staten Island University Hospital - Northwell Health, Staten Island, NY, USA*²*Staten Island University Hospital Northwell Health, Staten Island, NY, USA*

We present a 73 year old man with a history of Hypertension, Diabetes, Dylipidemia, COPD and Schizophrenia who was admitted for Respiratory Failure. He underwent a Tracheostomy and Percutaneous Gastrostomy. He was discharged to a Nursing facility 3 days later. He returned to the ED 1 day later as his PEG tube had dislodged. A ballooned catheter was placed at the nursing facility. On return presentation, the patient was in sepsis. He was initially resuscitated. On initial CT scan the catheter was found to be in the peritoneum and there was no extravasation of the oral contrast. The patient was taken to the Operating room 7 days later when he was more stable. The patient underwent an exploratory laparoscopy, with abdominal washout and creation of stapled Janeway Gastrostomy. He recovered well and was later discharged to the nursing facility.

WEDNESDAY, SEPTEMBER 2, 2020 GYNECOLOGY PRESENTATIONS

JLSL 20-019

SUCCESSFUL UTEROVAGINAL ANASTOMOSIS IN 42 PATIENTS WITH CONGENITAL CERVICAL AND VAGINAL ATRESIA

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Objectives: To outline the anatomic variations and the clinical management of congenital cervical and vaginal atresia in 42 cases.

Methods and Procedures: From January 2015 to January 2019, a total of 42 patients with congenital cervical and vaginal atresia were treated in the department of Gynecology at the 3rd affiliated hospital of Shenzhen University (China). Clinical examinations, magnetic resonance imaging, hormonal profile and laparoscopy were collected. All surgical findings were carefully reviewed to determine the anatomic characteristics of the cervical and vaginal malformations.

Results: The mean age at the time of symptom onset was 12.8±1.9 years (range 9-17). The mean time from symptom onset to surgery was 3.4±0.9 years (range 0.1-14). Among the 38 patients, (90.5%) had pelvic endometriosis. Among the 38 patients with pelvic endometriosis, 20 patients had ovarian endometrial cysts. Endometriosis was staged as minimal-mild in 21 and as moderate-severe in 17. All of the 42 patients received cervical reconstruction after Luohu vaginoplasty. Of the 42 patients with a preserved uterus, 2 attempted pregnancy up today, and one woman achieved a successful pregnancy but experienced premature delivery.

Conclusions: Our study found that cervical and vaginal atresia might be successfully treated by uterovaginal anastomosis under laparoscopy. The subsequent restoration of menstrual cycle is described. Thorough investigation and conservative intervention seem to be the first line approach in such cases.

JLSL 20-020

★ **Michael S. Kavic Award for Best Scientific Paper by a Resident**

LAPAROSCOPIC UTEROSACRAL LIGAMENT SUSPENSION COMPARED TO SACROSPINOUS LIGAMENT FIXATION: COMPLICATIONS AND RECURRENCE RATE

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Objective: Studies have found no difference in functional or adverse event outcomes between vaginal uterosacral ligament suspension and sacrospinous ligament fixation. There are no studies comparing laparoscopic uterosacral ligament suspension with vaginal sacrospinous ligament fixation. Our primary objective is the rate of perioperative complications between laparoscopic suspension and vaginal suspension. Our secondary objective is the rate of recurrent prolapse.

Methods: This was a retrospective chart review of 233 women who underwent laparoscopic uterosacral ligament suspension or vaginal sacrospinous ligament fixation at one institution from 3/1/2017 to 8/30/2019. Patient demographics, surgical data, complications, and prolapse recurrence were compared.

Results: In total, 114 women underwent laparoscopic suspension and 119 women underwent vaginal suspension. Pre-operative pelvic-organ prolapse quantification stage was similar between the two groups. The rate of cystocele was similar between the two groups (74% vs. 71%, $p =$

0.60). Women in the laparoscopic group were less likely to have posterior wall prolapse (25% vs 82%, $p < 0.01$). There was no significant difference in the rate of perioperative complications (6.1% vs. 7.6%, $p = 0.94$). Post-operative urinary retention was similar between the groups (24% vs. 16%, $p = 0.13$). The mean follow up was 18 weeks (range 0–113 weeks). At last clinic follow up, overall 71% had Stage 0 prolapse. Recurrent symptomatic prolapse occurred in 4.4% of the laparoscopic suspension group compared to 6.7% of the vaginal suspension group.

Conclusion: In our study, there was no difference in perioperative complications between laparoscopic or vaginal suspension groups. There was no difference in recurrence rate between groups, however there was limited long-term follow up.

JLSL 20-021

LUOHU VAGINOPLASTY IN MRKH SYNDROME: 10 YEARS' EXPERIENCE IN 885 PATIENTS

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Objective: To assess anatomical and functional outcomes of a novel laparoscopic peritoneal vaginoplasty technique (Luohu II procedure) in patients with Mayer-Rokitansky-Kuster-Hauser (MRKH) syndrome.

Methods and Procedures: From January 2007 to December 2016, a total of 885 patients with MRKH syndrome underwent Laparoscopic peritoneal vaginoplasty (Luohu II procedure). Randomly selected frequency-matched age-comparable healthy women were serving as controls ($n = 653$). Intraoperative parameters, postoperative parameters, and anatomical outcomes were recorded. Sexual satisfactions were assessed by the Female Sexual Function Index (FSFI) questionnaire and were compared with the controls.

Result(s): Laparoscopic peritoneal vaginoplasty (Luohu II procedure) was successfully performed in all 885 patients. The mean operative time and intraoperative blood loss were, respectively, 62.4±20.5 minutes and 13.0 ±9.7 ml. During median follow-up for 20 (range 8-96) months, mean functional neovaginal was 9.9±0.6 cm, including those who had no sexual intercourse. Vaginal biopsy showed complete epithelialization of vaginal mucosa. At 12 months after surgery, functional success, as assessed by the FSFI questionnaire, was achieved in 92.7% of patients. The FSFI scores did not differ significantly between patients with MRKH and healthy women in a control group. No common long-term complications occurred.

Conclusion(s): Laparoscopic peritoneal vaginoplasty (Luohu II procedure) may be regarded as a fast, effective and minimally traumatic technique that has satisfactory anatomical and functional outcomes for patients with MRKH syndrome.

JLSL 20-022

A POST-ENDOMETRIAL ABLATION SYNDROME TREATMENT: "SEQUENTIAL PELVIC DESENSITIZATION"

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Objective: Chronic Pelvic Pain (CPP) remains a big challenge for physicians to manage improving patient's quality of life. Surgical procedures, such as endometrial ablation, done in women with undiagnosed underlying CPP can act as a flare-up of the pain. We present results of a pelvic sequential desensitization algorithm that aims

on the bladder, pudendal nerve and myofascial pain, which can all be present on these patients.

Methods: A prospective observational cohort study of 23 women aged 33 – 61yo with the diagnosis of CPP and post-endometrial ablation syndrome, who followed the algorithm treatment at Midwest Center for Endometriosis and Pelvic Pain in Lima, Ohio from 2016–2018. The evaluation started with an Anesthetic Challenge Test (ACT) of the bladder followed by a treatment protocol of bladder rinses and/or pelvic blocks.

Results: All patients had positive ACT. On the group that screened positive for ACT and followed bladder rinses: 85% of patients had a visual analog scale of pain (VAS) improvement of 50% and 57% improved 100%, average improvement of 81%. For the group that followed bladder rinses and pelvic blocks: 100% had VAS improvement of >50%; 33% improved 100% and the average improvement was of 84% on VAS.

Conclusion: All women should be screened for chronic pelvic pain before performing a surgical procedure such as endometrial ablation. In the light of the significant improvement on VAS of the majority of the patients with the desensitization algorithm, we believe that sensitization may be the main reason of persistent pain on these patients.

JLSLS 20-023

PERIOPERATIVE AND SURVIVAL OUTCOMES OF PATIENTS WITH ENDOMETRIAL CANCER OPERATED BY THREE SURGICAL APPROACHES: ROBOTIC, LAPAROSCOPIC AND OPEN

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Objective: To analyze retrospectively the perioperative results and overall survival of patients with endometrial cancer, operated by three types of hysterectomies: robotic (RH), laparoscopic (LH) and abdominal (AH).

Material and Methods: For a period of 10 years (January 2008 – December 2017) 968 patients with endometrial cancer FIGO stage I, II and III have been examined. Of them 419 (43.3%) have been operated with RH, 76 (7.9%) have undergone LH and 473 (48%) – AH. In 539 (55.7%) of the cases the hysterectomy has been accompanied with pelvic lymph node dissection.

Results: Preliminary results indicate that minimally-invasive surgery (MIS) (RH and LH) is significantly shorter (mean operative time (OT) - 96 min), with less blood loss (BL) (mean BL - 97 ml) and shorter mean hospital length of stay (LOS) (3.37 days) compared to AH (mean OT – 140 min; mean BL – 436 ml; mean hospital LOS – 10.8 days) ($p < 0,001$). By 31st December 2017 out of 495 patients operated with MIS 409 (82.5%) are alive (in the RAH group – 350; 83.8% and in the LH group – 59; 77.6%). In comparison the vital status of the patients operated with AH shows significantly lower rates – 330 (69.8%) alive patients ($p < 0.05$).

Conclusion: The data of our study confirm the feasibility and safety of the robotic and laparoscopic approaches in the treatment of patients with endometrial cancer and show a trend for a better survival outcome.

JLSLS 20-024

COMPLICATIONS RELATED TO THE TREATMENT OF ENDOMETRIOSIS BY CONVENTIONAL AND ROBOTIC ASSISTED VIDEOLAPAROSCOPY

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Endometriosis is defined as the presence of endometrial stroma in extrauterine topography. Multidisciplinary approach with urologists and

coloproctologists is recommended depending on the disease. The overall rate of laparoscopic complications in gynecological surgeries is around 0.464%, with intestinal (34.5%) and urological (27.4%) complications being the most frequent. Risk factors for laparoscopic complications in general include surgery and/or previous pelvic/abdominal pathology (infection, inflammation, neoplasia), obesity and anticoagulation. According to Lermann et al, patients who underwent laparoscopic treatment of endometriosis had at least one previous abdominal surgery for another etiology in 27.7% and 28.4% two or more times. Patients with intestinal injuries have variable rates of complications depending on the technique used, with percentages of 31.6%, 10% and 4.2% for segmental, discoid and shaving resections, respectively. The prevalence of urinary endometriosis varies from 0.3–12% with a predominance of bladder, ureteral and renal lesions, in a 40:5: 1 ratio. Urological complications after colorectal resection are bladder emptying disorders (28.9%) followed by urinary infections (24.5%). Urinary fistulas, ureteral catheterization and self-catheterization are rare complications. Laparoscopy still has a disadvantage due to the limited range of motion. Robotics appears as an alternative to this disadvantage because it allows better visualization and greater range of motion, in addition, it has low rates of postoperative complications (8.6%). Despite the presented complications rates, the vast majority of studies cite complications Clavien-Dindo I and II (low risk), laparoscopy and robotics persisting as a safe treatment for endometriosis, with low recurrence and complications rates.

JLSLS 20-025

FLUOROSCOPICALLY GUIDED HYSTEROSCOPIC TUBAL CANNULATION: A NOVEL PROCEDURE FOR UNILATERAL OR BILATERAL PROXIMAL TUBAL OBSTRUCTION PROMPTLY RESOLVES TUBAL INFERTILITY

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Objective(s): This study was designed to evaluate an incision free procedure, Fluoroscopically Guided Hysteroscopic Tubal Cannulation (FHTC) in infertile subjects with proximal tubal block for procedural success, safety and rate and time to intra-uterine pregnancy.

Methods and Procedures: This retrospective study enrolled subjects with bilateral or unilateral proximal tubal obstruction on hysterosalpingography, who failed selective salpingography. All 37 subjects underwent FHTC between 2017 and 2019 at the time of a hysteroscopy for defects seen on sonohystero-graphy. FHTC used a Novy Catheter, with or without the 3 French inner catheter and guide-wire, to cannulate the occluded fallopian tube(s), followed by the injection of contrast under C-arm imaging. Technical success rates, complications, post procedure pregnancies, and average time from surgery to pregnancy were evaluated.

Results: FHTC achieved tubal patency in 48/56 (85.7%) of proximally obstructed tubes and 34/37 (91.9%) subjects had at least one tube unblocked. With bilateral block, 19/19 (100%) of subjects achieved at least unilateral patency, while patency was achieved in 15/18 (83.3%) subjects with unilateral block. Asymptomatic tubal perforation occurred in 2 cases (3.6%). 12 subjects (32.4%) achieved intrauterine pregnancies without IVF in an average of 69 days from the procedure. There were no multiple pregnancies and one (2.7%) ectopic pregnancy.

Conclusion(s): FHTC is a safe, effective, incision free procedure that results in a very high rate of tubal patency, cumulative pregnancy and very short time to intrauterine pregnancy.

JLS 20-026

FEASIBILITY OF LAPAROSCOPIC SALPINGECTOMY FOR STERILIZATION

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Introduction: Epithelial ovarian cancer may arise from the fallopian tubes. This led to the recommendation that salpingectomy be performed in lieu of tubal ligation for sterilization as a means of risk reduction. Previous research shows no difference in operative time or complication rates between the two procedures.

Purpose: To determine whether there are differences in surgery time and complication rates between bilateral salpingectomy and bilateral tubal ligation in women undergoing sterilization procedures.

Methods: Retrospective chart review was conducted of women who underwent salpingectomy or tubal ligation at Brooklyn Methodist Hospital between January 1, 2016 and June 30, 2019. SPSS was used to compare categorical data using a chi-squared test and continuous variables using one way ANOVA.

Results: There was no significant difference in mean surgery time between the salpingectomy ($n = 47$, 47 minutes) and tubal ligation ($n = 60$, 56 minutes) groups ($p = .114$). The complication rate in the tubal ligation group was 5% (3/60) vs. 2% (1/47) in the salpingectomy group ($p = .629$).

Discussion: Previous studies demonstrated that women who had salpingectomies had a 65% risk reduction in ovarian cancer, and women who had tubal ligations had a 28% risk reduction, when compared to women who did not have either procedure. This study supports current literature that there are no differences in OR time or complication rates, which provides encouraging evidence to perform salpingectomy over tubal ligation.

JLS 20-027

MINIMALLY INVASIVE MANAGEMENT OF A HETEROTOPIC CORNUAL PREGNANCY WITH TWIN INTRAUTERINE GESTATION WITH SUBSEQUENT GESTATIONAL TROPHOBLASTIC NEOPLASIA

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Cornual Heterotopic Pregnancy presents a unique challenge to the Minimally Invasive surgeon due to the imminent danger represented by the ectopic gestation combined with the precarious position of the ongoing pregnancy. This paper describes a 36-year-old G2P1 who presented as a triplet pregnant de novo with a cornual gestation and a twin intrauterine pregnancy with demise of one twin. She refused pneumoperitoneum and laparoscopic approach so a minimally invasive procedure was performed using a hand port mini with laparoscopic instrumentation and suture. She underwent successful cornual resection with ongoing viability of her intrauterine pregnancy but 7 weeks later had demise of her surviving triplet. Her uterine evacuation was done with a hysteroscopic technique for fear of disrupting her cornua with nice fall of her HCG levels until a plateau of HCG 4 weeks later and treatment with Methotrexate single dose initiated .4 weeks later with lower but plateau of HCG traditional uterine curettage was done with degenerated chorionic villi on pathology. Continue persisting HCG levels prompted additional imaging showing enlarging mass and pt was treated with IV methotrexate for invasive mole. After 3 cycles of IV methotrexate HCG was less than 2 and mass was gone. Minimally

invasive management of heterotopic cornual ectopic minimizes impact to the surviving pregnancy and should be considered when planning surgical approach to this condition.

JLS 20-028

SAFETY OF LAPAROSCOPIC-ASSISTED MYOMECTOMY IN MORBIDLY OBESE PATIENTS AT A FREESTANDING AMBULATORY SURGERY CENTER

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Objective: To report the surgical outcomes of laparoscopic-assisted myomectomy cases performed on morbidly obese patients (BMI >40 kg/m²) at a freestanding ambulatory surgery center.

Materials and Methods: A retrospective chart review of 76 morbidly obese (BMI >40 kg/m²) patients, 18 years or older, who underwent laparoscopic-assisted myomectomy by one of two high-volume laparoscopic gynecologic surgical specialists at a freestanding ambulatory surgery center serving the Washington, DC area, between October 2013 and February 2019. Blood loss was controlled by transient and/or permanent uterine artery occlusion. Minilaparotomy performed for specimen removal in all cases. No power morcellation used. Postoperative complications graded using the Clavien-Dindo Classification system.

Results: Mean myoma weight was 429 g, ranging between 2.5 – 2800 g. Intraoperative complication rate was 2.6%. EBL average was 272 mL. Postoperative complication rate was 13.2%, with 6/7 cases considered grade 2, consisting of blood transfusions and incisional infections treated with antibiotics. No grade 4 or 5 postoperative complications occurred. 1 patient (1.3%) required transfer to the hospital and recovered without further complication.

Conclusion: Laparoscopically-assisted myomectomy with uterine artery occlusion allows experienced surgeons to remove significant tumor loads while minimizing blood loss and complications. The results demonstrate this technique can be performed safely in a freestanding ambulatory surgery setting, even in morbidly obese patients.

JLS 20-029

FACTORS PREDICTING IN-OFFICE HYSTEROSCOPY SUCCESS: A CASE SERIES

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Objective: Outpatient hysteroscopy has a failure rate of 6–12%, which has been attributed to patient discomfort during the procedure. The current study evaluated factors for failure to perform in-office flexible diagnostic hysteroscopy in women presenting with abnormal uterine bleeding.

Methods and Procedures: Patients who underwent flexible hysteroscopy between April 2017 and April 2018 were included. Data on age, parity, BMI, mode of delivery, uterine size by ultrasonography and fibroid location was collected. Failure of the procedure was defined as inability to visualize the fundus of the uterine cavity. Mann-Whitney U test, Chi-Square and t-test were used for statistical analysis.

Results: 57 patients were included in the study; 13 procedures failed (22.8%). Age (40.8 ± 7.3 vs. 46.5 ± 11.3, $p = .04$) and history of cesarean section (0.47 ± 0.82 vs. 1.23 ± 1.16, $p = .028$) was significantly higher in the group that failed hysteroscopy. BMI (mean 31, $p = 0.4$), location of the largest fibroids (majority intramural, $p = .86$), size of the uterus (mean 10.5 cm, $p = 0.15$) and number of vaginal deliveries ($p = 0.17$) were not significantly different between groups that failed and those that successfully completed the procedure.

Conclusion: Flexible hysteroscopy utilizes a smaller cannula and may overcome issues with pain. However, our study has a high failure rate despite the use of this device. Older age and prior cesarean section were associated with higher risk of procedure failure, indicating that cervical stenosis may be the limiting factor. Pre-procedure cervical preparation may be useful in patients presenting with these factors.

JLS 20-030

TRAIN THE TRAINER: GHANAIAN LAPAROSCOPIC TRAINING PROJECT

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Objective: About 1% of surgical procedures are performed laparoscopically in most African countries due to lack of laparoscopy training and equipment. There is a need to create a methodical Ghanaian laparoscopic training program utilizing local gynecologists and general surgeons.

Methods and Procedures: A collaboration of local hospitals, medical societies, and device manufacturers will provide expertise and resources needed to implement a laparoscopy training program in Ghana.

Stage One: Expert laparoscopists from the US will train 5 Ghanaian surgeons who already have basic laparoscopic skills for 2 weeks. The surgeons will be trained to perform and teach advanced laparoscopic psychomotor, procedural, and decision-making skills. Opportunities for mini-fellowships will be provided for continued skill advancement. Ongoing support from US experts will be provided via telementoring.

Stage Two: The 5 trained Ghanaian surgeons will train 15 additional local gynecologists and general surgeons who have advanced open surgery skills, but no previous laparoscopic training. The new trainees will go through a similar training program as described above.

Stage Three: The 20 trained laparoscopists will begin training all residents, practicing gynecologists and general surgeons in Ghana to perform both basic and advanced laparoscopic procedures over 5 years. Appropriate curricula and training models will be provided.

Results: All practicing gynecologists, general surgeons, and residents will receive laparoscopic training. Laparoscopic procedures being performed annually throughout Ghana will be recorded. Patient outcomes will also be recorded when possible.

Conclusion: The described training program will create high quality Ghanaian laparoscopists, thus increasing the number of patients undergoing safe laparoscopic procedures throughout Ghana.

JLS 20-031

UTILIZING OR BLACK BOX TECHNOLOGY TO IDENTIFY AND CHARACTERIZE INTRAOPERATIVE DELAYS, DISTRACTIONS AND THREATS IN THE GYNECOLOGY OPERATING ROOM: A PILOT STUDY

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Objectives: Operating room delays can result from a chain of intra-operative events including technical factors, equipment failures or unavailability, and non-technical human factors. Operating Room Black

Box (ORBB) technology can be used to capture information during surgery for analysis and potential identification of root causes of inefficiencies. Our objective was to measure and characterize procedural steps, intra-operative distractions and delays during a common minimally invasive gynecologic procedure and identify if these delays correlated with team technical and non-technical scores.

Study Methods: A cross-sectional study was conducted of 11 patients undergoing total laparoscopic hysterectomy (TLH) at a Canadian tertiary care hospital between May and October 2019. Video, audio, and patient physiologic data from all procedures were obtained through a multichannel synchronized recording device. Trained analysts reviewed the recordings and coded procedural timing, distractions, delays, threats, and technical and non-technical scores.

Results: Mean total case time was 172 minutes (SD ± 16 minutes) and mean procedure time was 117 minutes (SD ± 17 minutes). Correlations between total case time and team non-technical scores and procedure time and team non-technical scores were positive and moderate in strength. Medians of 83 door openings [interquartile range (IQR) 76-104], 173 distractions (IQR 19-190) and 3 threats (IQR 2-5) were identified per case.

Conclusions: The ORBB allowed us to identify variations in total case times and procedural times for elective TLH. There were frequent intra-operative distractions as well as latent threats noted and there was a moderately positive correlation between case times and procedure times and team non-technical skills.

JLS 20-032

INNOVATIVE TEACHING OF MILLENNIAL GENERATION GYNECOLOGICAL TRAINEES: THE UTILIZATION OF SOCIAL MEDIA AND MULTIMEDIA FOR IMPACTFUL INTERACTIVE EDUCATION OF GYNECOLOGICAL SURGERY

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Study Objective: Demonstrate the utility of social media in minimally invasive gynecological surgery (MIGS) education and determine the most effective social media platform to impact and interact with the current OB/GYN trainee population.

Design: @MIGS_Tips was created focusing on MIGS education through weekly one minute video posts focusing on surgical technique, anatomy, and technology for all trainees'. Accounts on Instagram (IG), Twitter, and Youtube were simultaneously created and subscriber/follower statistics were tracked.

Patient or Participants: Medical Students, OB/GYN Residents, OB/GYN Fellows with access to IG, Twitter, and YouTube.

Interventions: N/A

Measurements Main Results: IG is the most accessible social media platform to reach, connect, and interact with the current OB/GYN trainee population. Over 90% of IG @Migs_Tips followers (https://www.instagram.com/migs_tips/) are OB/GYNs trainees, nationally and internationally. After 1 month, @MIGS_Tips IG gained 1,500 OB/GYN trainee followers with over 5,000 video post views. IG Story ephemeral (24 hours) posts gain over 900 view daily, enabling frequent educational interactions with followers.

Conclusion: @MIGS_Tips on the IG social media platform is the most impactful for OB/GYN trainees. Over 50 OB/GYN Residency Programs have individual IG accounts, making IG the most accessible social media account to interact with trainees. IG's ability to share, reply, sticker tap, and follow @MIGS_Tips's multimedia posts greatly increases meaningful interactions and discussions, further facilitating MIGS focused surgical technique, technology, and anatomy education.

JLSL 20-033

★ *Carl J. Levinson Award for Best Video*

MEASURES TO PREVENT TUMOR SPILLAGE IN LAPAROSCOPIC SURGERY AND OUTCOME OF TOTAL LAPAROSCOPIC AND ABDOMINAL RADICAL HYSTERECTOMY FOR FIGO 1B1-2 CERVICAL CANCER

Yasuhiko Shiki

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Objective: LACC trial suggests intraoperative tumor manipulation and dissemination may compromise survival of early stage cervical cancer with total laparoscopic radical hysterectomy (TLRH). We examined oncological outcome of TLRH with abdominal radical hysterectomy (ARH) and evaluated our surgical technique.

Methods: This retrospective study compared cases of TLRH ($n=29$) to cases of ARH ($n = 35$) for FIGO stage 1B1-2 cervical cancer. TLRH is combined with measures to prevent tumor spillage: 1) closure of vaginal cuff before colpotomy, 2) avoidance of usage of uterine manipulator, 3) Clipping of venous drainage from uterus before manipulating uterine cervix, and clipping central side of lymph drainage before pelvic lymph node dissection. Vaginal cuff closure before colpotomy was not combined with ARH.

Results: Surgical outcomes of TLRH were significantly superior compared to ARH for estimated blood loss (mean: 200 vs. 612 mL, $p < 0.001$). Operative time of TLRH was significantly longer than ARH (mean: 275 vs. 388 min., $p < 0.001$). Cox proportional hazard model confirmed that oncologic outcomes were similar between 2 groups, including disease free survival (DFS, HR: 0.2441, 95%CI: 0.02852-2.09, $p = 0.198$) and overall survival (OS, HR: 1.676, 0.1045-26.85, $p = 0.7152$). Local recurrence was observed in 4 cases of ARH group (11%) but none in TLRH group. Metastasis was observed in 1 case of ARH group and 1 case of TLRH group.

Conclusion: Our study suggests that TLRH is accepted when combined with preventive method of tumor spillage. Tumor should be isolated, and vaginal cuff closure before colpotomy is needed in both groups.

JLSL 20-034

★ *Harrith M. Hasson Award for Best Presentation Promoting Education or Training*

USE OF AN ORANGE AND CHICKEN BREAST IN SIMULATION TRAINING OF THE EXCITE MODEL: A VIDEO DEMONSTRATION

Meredith L. McKinney, M.L. Racher

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Objective: Extracorporeal C-Incision Tissue Extraction (ExCITE) is used in minimally invasive gynecologic surgery to extract large specimens (i.e. myomas, uteri). The published model of this technique uses beef tongue, which is approximately \$5-7 per learner. The purpose of this video is to instruct simulation directors on how to assemble and utilize a more cost effective model for ExCITE training.

Methods and Procedures: Inexpensive reusable plastic containers were used to hold the orange and the chicken breast models. We then instructed learners on how to elevate the specimen to the extraction point and cut a "C" incision on its surface. Learners continue to alternate between grasping the specimen and cutting on the cut surface, leaving one surface completely intact until the entire specimen is removed.

Results: There was a statistically significant improvement in comfort level after completing the chicken model and a trend in improved comfort level after the orange model. Overall comfort in use of the ExCITE technique was statistically significant after completion of both

models. The cost of the chicken breast model ranged from \$0.56 to \$1.13 per learner; the cost of the orange model was \$0.30 per learner.

Conclusion: This video instructs simulation directors on how to assemble and utilize a more cost effective model for ExCITE training that also significantly improves learner's understanding of, and comfort with, this technique.

JLSL 20-035

ANATOMY OF A TOTAL LAPAROSCOPIC HYSTERECTOMY: A SURGICAL TUTORIAL FOR STUDENTS AND RESIDENTS

Megan Kennedy Burns, Christina Kunycky

University of Massachusetts, Worcester, MA, USA

The hysterectomy is one of the most common procedures performed by gynecologists and requires extensive knowledge of pelvic anatomy in order to be performed safely. As such, it provides an excellent opportunity to learn pelvic anatomy in a clinically meaningful manner. In this video we will review the steps necessary to perform a laparoscopic hysterectomy, pausing along the way to discuss the relevant anatomic structures of the procedure. We will identify the vasculature of the gynecologic organs and describe management of the vascular pedicles, while highlighting the anatomic relationship of the ureter during gynecologic surgery. Video tutorial is a useful adjunct for medical students and residents to better appreciate these anatomic relationships prior to participation in the operating room.

JLSL 20-036

USE OF TRANSCERVICAL RADIOFREQUENCY ABLATION FOR TREATMENT OF UTERINE FIBROIDS

Lindsey Michel, Scott Chudnoff

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Objective: The purpose of this video is to demonstrate the use of transcervical radiofrequency ablation (RFA) of uterine fibroids utilizing a sonography guided transcervical device

Methods: A 51yo G5P4 with a history of abnormal uterine bleeding and fibroids, who previously underwent abdominal myomectomy, presented for further management. After thorough counseling, patient opted for transcervical radiofrequency ablation of her fibroid. At the time of her procedure, the sonography guided transcervical device was deployed to the targeted ablation zone and radiofrequency energy was applied to a goal temperature of 105 degrees Celsius. Complete ablation of a type II anterior fundal uterine fibroid was achieved without any complications.

Results: Patient tolerated the procedure well. She was discharged home approximately 2 hrs after her procedure. She did not require any narcotic pain medications upon discharge.

Conclusions: Transcervical radiofrequency ablation is safe and effective alternative treatment option for management of uterine fibroids. It should be considered in patients who wish to avoid major surgery or are poor surgical candidates."

JLSL 20-037

STEP-BY-STEP GUIDE TO THE SURGICAL MANAGEMENT OF RECURRENT INTERSTITIAL ECTOPIC PREGNANCY

Humara Edell, Samantha Benlolo, Sari Kives, Deborah Robertson

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Objective: The purpose of this educational video is to provide a brief overview of interstitial ectopic pregnancy, describe a rare case of a recurrent interstitial ectopic pregnancy after previous ipsilateral

cornuectomy and demonstrate a minimally invasive surgical approach to management.

Methods and Procedures: We describe the case of a 38 year old G5P2 woman who presented with imaging concerning for a left interstitial ectopic pregnancy. She had previously undergone a left salpingectomy and left uterine wedge resection for separate pregnancies making the case complex and clinically fascinating. This educational video outlines clinical considerations and demonstrates the surgical approach to management.

Results: A laparoscopic left cornuectomy was successfully performed and the patient recovered well.

Conclusion: Recurrent interstitial ectopic pregnancy poses a high risk to patients but can be safely managed with a minimally invasive surgical approach when techniques focused on surgical planning, blood conservation, post operative care and extensive patient counselling are implemented.

THURSDAY, SEPTEMBER 3, 2020 POSTER PRESENTATIONS & GYNECOLOGY VIDEO PRESENTATIONS

JLSL 20-038

★ *Gustavo Stringel Award for Best Poster*

ISTHMO-NEOVAGINA ANASTOMOSIS AFTER LUOHU VAGINOPLASTY IN MRKH SYNDROME PATIENTS WITH FUNCTIONAL RUDIMENTARY CAVITIES

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Objectives: The presence of uni- or bilateral functional rudimentary cavities represents a clinically important anatomic variant of MRKH Syndrome. Surgical excision remains the classical treatment of the uni- or bilateral functional rudimentary cavities. The purpose of this study was to evaluate functional results of isthmo-neovagina anastomosis after Luohu vaginoplasty done for cases of MRKH syndrome with functional rudimentary cavity.

Methods and Procedures: Surgical procedures were done between May 2017 and December 2018 at the department of Obstetrics and Gynecology, the 3rd affiliated hospital of Shenzhen University. Nine patients who had diagnosed MRKH syndrome uni- or bilateral functional rudimentary cavities (ESHRE/ESGE U5aC4V4) were included. Combined laparoscopic Luohu vaginoplasty and anastomosing the functional rudimentary horn to the neovagina were performed. Follow-up was done by gynecological and MRI examination in a duration ranged from 6 to 18 months.

Results: The isthmo-neovagina anastomosis procedure was performed successfully in all cases. All patients had relief of the cyclic pain and had regular menstrual flow. Two patients developed low vaginal stenosis without occlusion of the track.

Conclusions: Isthmo-neovagina anastomosis should be a promising conservative management option for MRKH syndrome with functional rudimentary cavities. Early diagnosis and surgery appear necessary to avoid the development of pelvic associated lesions.

JLSL 20-039

★ *Gustavo Stringel Award for Best Poster by a Resident*

RESIDENT IMPACT ON LAPAROSCOPIC SACROCOLPOPEXY OUTCOMES

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Objective: Recent studies demonstrate resident involvement in FPMRS increases operative time but not complication rates. The purpose of this study is to determine if operative times and outcomes from an institution with significant resident involvement in advanced urogynecological procedures compare favorably with the published data.

Methods and Procedures: A retrospective chart review of 183 consecutive laparoscopic sacrocolpoxies at one institution between January 1, 2016 and December 1, 2019. Descriptive statistics were used to on mean operative times and complication rates are compared to published data with robotic, open and laparoscopic sacrocolpoxies with and without trainee involvement.

Results: In 2019, Sheyn et al reported an operative time of 199 minutes for laparoscopic sacrocolpexy while Paraiso et al cited 200 minutes. The overall complication rate was 18% (4% mesh erosion, 1.8% bowel obstruction, 2.5% cystotomy) and the reoperation rate was 0.9% in the Sheyn study. Our average surgical time for sacrocolpexy was 147.8 minutes. Complications included cystotomy (2.1%), mesh detachment (0.7%), bowel obstruction (0.7%), mesh erosion (0.7%) and de-novo fecal incontinence (1.6%) for an overall complication rate of 15.4%.

Follow up at an average of 62 days demonstrated a 10.2% rate of recurrent prolapse. The reoperation rate for recurrent prolapse was 3.2%.

Conclusion: In conclusion, this institution demonstrates short operative times, few complications and low incidence of recurrent prolapse with trainee involvement.

JLSL 20-040

DIAGNOSTIC DILEMMA: SYNOVIAL SARCOMA MASKED AS COMMON GYNECOLOGICAL PATHOLOGIES

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Synovial sarcoma is a rare tumor of mesenchymal origin that most commonly presents as a soft tissue tumor in young adults. We present a case of a synovial sarcoma presenting as a pelvic mass noted on incidental imaging in a premenopausal female. A 45-year-old multiparous woman was referred to our hospital from her community provider for management of what was described as a pedunculated leiomyoma found incidentally on imaging. The patient re-presented two years later, and the aforementioned mass was described as a dermoid cyst on repeat imaging. Intraoperative findings revealed a 20cm retroperitoneal mass occupying the majority of the pelvis, with no fibroids or ovarian masses noted. The patient subsequently underwent surgical resection and is currently undergoing radiation and chemotherapy. Final pathology showed synovial sarcoma. To the best of our knowledge, this is only the second case of a synovial sarcoma involving the uterus that is reported in the literature, and was confirmed with the characteristic t(X;18) translocation that is found exclusively in synovial sarcomas. This case represents a unique diagnostic dilemma, as well as a rare pathology that gynecologists should be aware of when encountering a pelvic mass of unknown origin.

JLSL 20-041

EFFICACY OF A MORE MINIMALLY INVASIVE APPROACH TO THE PAPANICOLAOU SMEAR

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Proper pap smear techniques generally involve visualization of the cervix and sampling the endocervical and ectocervical tissues to search for evidence of dysplasia. A disadvantage to this technique is the

angling and violating manipulation of the speculum that can be required to visualize the cervix in some patients. This perceived violation can lead to lower patient satisfaction and decreased compliance in future examinations in women who are displeased with the experience. Although this time honored practice has been instrumental in the detection and prevention of cervical cancer, physiologic understanding of the cervix in the process of sloughing off cells questions the necessity of complete visualization of the cervix and transformation zone at time of simple Pap smear. This is further reinforced by the physiologic understanding of the process by which cells are sloughed off, and the degree to which uninfected cervical tissue, such as a tissue suffering with HGSIL or CIS, increases its process of sloughing off cells. Based on the assumption that the cervix with the worst pathology with slough off the most cells, we designed a minimally invasive Pap smear technique that used a speculum but did not require the violating angling of the speculum that can be required in the collection of some Pap smear samples. We then use this technique on all patient's seen in OB/GYN clinic from February 2014 until February 2016 and kept track of all diagnoses that were yielded as well as all unsatisfactory Pap smears that were reported. The same laboratory was used for all specimens.

JLSLS 20-042

RECENT EXPERIENCE OF ENDOSCOPIC SYMPATHETIC BLOCK FOR PREDICTION OF COMPENSATORY HYPERHIDROSIS IN PRIMARY HYPERHIDROSIS

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Objective: Compensatory hyperhidrosis is the cause of patients' dissatisfaction after the sympathectomy for hyperhidrosis. Thoracic sympathetic nerve block before surgery can be used for prediction of compensatory hyperhidrosis. To predict the occurrence of compensatory hyperhidrosis for patients, we performed a local anesthetic predictive procedure.

Methods: We retrospectively reviewed the 107 patients who undergone predictive procedures for primary craniofacial and palmar hyperhidrosis from March 2017 to November 2019. Using 2-mm needlescope, sympathetic nerve block was performed with ropivacaine. A week later, the patients were interviewed and decided whether to proceed with sympathectomy.

Results: The mean age of the patients was 32.3 years (from 14 to 67 years). Sixty-six patients were male (61.7%). Primary hyperhidrosis was relieved in all patients by the predictive procedure without severe complications. Temporary compensatory hyperhidrosis happened to 32 patients (29.9%) and 78 patients decide to undergo sympathectomy. The group of the patients who refused the sympathectomy tend to have higher average body-mass-index and compensatory hyperhidrosis rate compared to the group who had undergone the operation. Effective duration of sympathetic block was statistically significant factor for deciding to have surgery for patients ($p = 0.001$). The predictive procedure had 94.4% specificity and 33.3% sensitivity for prediction of compensatory hyperhidrosis.

Conclusion: In our recent experience, endoscopic sympathetic block was safely performed to all patient with primary craniofacial and palmar hyperhidrosis to predict the occurrence of compensatory hyperhidrosis after sympathectomy. The duration of sympathetic nerve block was a main factor for patient to decide whether to proceed with the surgery.

JLSLS 20-043

IMPORTANCE OF INTRA-OPERATIVE AND POST-OPERATIVE TESTING TO EXCLUDE LEAK AFTER BARIATRIC SURGERY

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Introduction: Leak and its sequelae are the most important determinants of mortality.

Objectives: To report prospective results of intra-operative and post-operative leak tests in bariatric surgery.

Methods: Methylene blue and air leak test, Gastrograffin swallow, Prospective data collection

Results: Total: 569 (127 revisions and 442 primary), Age: 47.3 years (23-75 years), Weight: 37.9 kg (78-312 kg), BMI: 50.1 (33-99.6), OS-MRS: 2.4 (0-5), Revision surgery: No mortalities. There were 3 positive intra-operative tests: 1 vertical banded gastroplasty-GBP; 2 Band-GBP. Leak rate was 1.5% (2/127; one was an iatrogenic injury and not a true leak) excluding this, leak rate was 0.78%. If positive intraoperative tests became clinical leaks, total leaks would have increased to 5/127 (3.9%).

Primary surgery: Total: 441 (GBP/Sleeve=326/115), 1 delayed leak (LSG) on 12th day; quasi Boerhaave's syndrome. Gastrograffin showed no leak but CT scan showed a well-localised leak at the top end of the sleeve. It was treated successfully with stenting for two weeks. 1 positive methylene blue test in primary sleeve repaired and retesting showed no leak confirmed by GG swallow. 1 radiological leak one after GBP in an otherwise asymptomatic patient, was taken back to theatre for repair. Repeat methylene blue was not readily positive but showed subtle staining after good distension.

Conclusion: There is little evidence in the literature showing the clinical benefit of intra-operative leak test with bariatric surgery. We offer that our routine practice enables us to pick up those leaks intra-operatively or early post-operatively, thus minimizing leak rates and intensity of sequelae of leak.

JLSLS 20-044

THE IMPACT OF SURGICAL TRAINEE INVOLVEMENT IN LAPAROSCOPIC DONOR NEPHRECTOMY ON PERIOPERATIVE OUTCOMES AND COMPLICATIONS

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Objective: Laparoscopic donor nephrectomy (LDN) is extremely challenging with no room for error. The procedure is routinely performed by an experienced attending surgeon, while residents/fellows may serve as assistants. We assessed the impact of surgical involvement of fellows and residents in performing portions of the LDN procedure on donor/recipient outcomes.

Methods and Procedures: An IRB-approved study was performed in patients who underwent LDN since 2003 by a single primary surgeon. Patient demographics, perioperative data, length of stay, and 30-day postoperative complications were analyzed. Surgeries were categorized based on surgeons: (1) attending only, (2) attending+fellow, (3) attending+fellow+resident, and (4) attending+resident.

Results: A total of 188 consecutive LDNs were assessed. (Table) The mean age, BMI, EBL, and LOS was similar for all groups. The variance of EBL was higher in group 3 (attending+fellow+resident) but the difference was not statistically significant. The mean OR time and WIT were higher ($P < 0.05$) in group 1 (attending surgeon only). Complications for the groups were 2 (8.3%) (group 1), 1 (3.3%) (group 2), 3 (2.4%) (group 3), and 0 (0%) (group 4). Five complications were minor (Clavien I-II), and 1 complication was major (Clavien IIIb) in group 1 (attending surgeon only).

Conclusion: The attending surgeon only group had the longest OR time and WIT which was attributed to a higher degree of case complexity. Based on our experience, allowing a fellow or an experienced resident to perform portions of a laparoscopic donor nephrectomy procedure does not adversely affect perioperative outcomes or postoperative complication rates,

JLSL 20-045

BRONCHOBILIARY FISTULA SECONDARY TO CHRONIC PANCREATITIS INDUCED BILIARY OBSTRUCTION

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Objective: Bronchobiliary fistula (BBF) is a rare, complex disease process. These fistulae are traditionally managed operatively but are associated with 10% mortality in some series. The purpose of this report is to describe diagnostic aids and the successful non-operative management of fulminant BBF in a patient with ARDS.

Methods and Procedures: A literature review was performed to identify cases of bronchobiliary fistula, their diagnosis, and management. A chart review was performed of a patient with fulminant BBF with ARDS.

Results: A 43-year-old woman with history of Puestow for chronic pancreatitis and severe malnutrition presented in ARDS with biliptysis. She required intubation with paralysis and prone positioning for adequate ventilation. Imaging demonstrated right subdiaphragmatic pneumoperitoneum which was treated with large bore drainage tube. Due to severe malnutrition and prior operative history, the patient was managed with supportive care, prolonged drainage, and ERCP with permanent stent placement. She remains alive and well 11 months later. Traditional management of BBF includes operative fistula repair, but adjunctive therapies such as HIDA, MRCP, ERCP, PTC, and percutaneous procedures have decreased the number of patients requiring emergent exploration. However, unstable patients with fulminant BBF are still recommended to undergo operative management. Prompt diagnosis is essential for early management, and can be assisted by adjunctive tests such as bronchoscopy, bronchial fluid bile analysis with urine dipstick strip, HIDA, MRCP, and/or ERCP.

Conclusion: BBF is rare disease associated with high perioperative mortality. Nonoperative management with ERCP and permanent stent placement may be a safer alternative than operative management.

JLSL 20-046

LAPAROSCOPIC CHOLECYSTECTOMY IN A PATIENT WITH SITUS INVERSUS TOTALIS AFTER VIDEOLAPAROSCOPIC SLEEVE - CASE REPORT

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Introduction: Situs inversus totalis is the technical term used when there is a complete transposition of all organs to the opposite side referring to classical embryogenic orientation Laparoscopic

cholecystectomy is one of the most performed surgeries in the world, with its technique described in the late 1980s. There is no evidence of increased incidence of cholelithiasis in patients with situs inversus totalis, but anatomical changes of the biliary tract are expected due to differentiation of embryological growth.

Methods and Procedures: Case report of a patient of our Hospital. We report the case of a 61-year-old female patient who had previously undergone videolaparoscopic gastroplasty 7 months ago, who developed refractory biliary colic and underwent videolaparoscopic cholecystectomy.

Results: The surgical technique is challenging in these cases, especially because of the mirror findings in relation to the original technique. An additional challenge in this case was the fact that the patient had a previous laparoscopy due to gastroplasty performed. The presence of adhesions related to the surgery hardly interfered with the Calot triangle dissection, but the way they presented themselves required the attention of the entire surgical team.

Conclusion: Although uncommon, laparoscopic cholecystectomy can be performed in a situs inversus patient with ease, even in the presence of a previous surgical approach.

JLSL 20-047

A RARE CASE OF LAPAROSCOPIC REPAIR OF COMPLICATED UMBILICAL HERNIA WITH LIVER CIRRHOSIS

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Background and Objective: Hernias are the mainstay of general surgery, have become challenging by the association of cirrhosis. The prevalence of ventral hernia in cirrhosis is about 20%. Currently there is no consensus regarding the management of complicated ventral hernia with liver cirrhosis. Here is an attempt of laparoscopic repair of one such case.

Methods and Procedure: A 77 years old lady presented with history of irreducible umbilical hernia with no features of intestinal obstruction. She had history of pulmonary tuberculosis treated 25 years ago. On biochemical and radiological evaluation, found to have Child A Cirrhosis (non-alcohol etiology). She was operated by laparoscopic intraperitoneal onlay mesh plus repair using, 10mm epigastric port and 5mm working trocars on the right and left subcostal region. 15x15cm Pro - Visc 3D™ composite mesh was placed and fixed with transfacial and intracorporeal sutures using No.1 polyamide sutures.

Results: The duration of surgery lasted 120 minutes with less than 10ml blood loss. No perioperative complications noted. Patient was ambulated and allowed orally within 12hrs and discharged by 48hours. Patient was asymptomatic at 5 month's follow up.

Conclusion: Laparoscopic repair of complicated umbilical hernia with liver cirrhosis is safe and feasible.

JLSL 20-048

INTESTINAL ATRESIA, USUAL CAUSE OF NEONATAL INTESTINAL OBSTRUCTION

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Intestinal atresia is a congenital complete. Atresia is an intrinsic problem of the bowel and is not an extrinsic compression. It occurs in 1 per 5000-10,000 live births. Associated anomalies have been reported in 45-65% of cases.

Classification system: Type I (>90%) either a membrane or web causes the intrinsic duodenal obstruction; the duodenum remains in

continuity. Type II complete obliteration of a segment of the duodenum with the proximal and distal portions attached via the fibrous cord. Type III associated with complete separation of the dilated proximal duodenum from the collapsed distal duodenum.

Diagnosis is often prenatal in others cases the diagnosis is often delayed until the neonate has started on enteral feeds and feeding intolerance develops with emesis and gastric distention

Management: After the diagnosis is made, appropriate resuscitation is required with correction of fluid balance and electrolyte abnormalities; and gastric decompression. Then surgical treatment is recommended

JLSLS 20-049

LAPAROSCOPY IN THE PREGNANT PATIENT

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The purpose of this educational video is to provide an overview of the guidelines and indications for laparoscopy in pregnancy, as well as to review preoperative, intraoperative and postoperative considerations. Although historically contraindicated in pregnancy, laparoscopy is now the preferred treatment approach to surgical conditions in pregnancy and is considered safe in all trimesters.

In this video, we review topics such as patient positioning, surgical techniques to aid with visualization, recommendations for venous thromboembolism prophylaxis and appropriate monitoring for preterm labor. We aim to provide a thorough approach to laparoscopy in this unique patient population.

JLSLS 20-050

VIDEO-LAPAROSCOPY FOR NICHE REPAIR

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Objective: Cesarean scar defect, also known as niche or isthmocele, is defined as an indentation of the myometrium of at least 2 mm. It is considered significant if the depth is at least 50% of the anterior myometrium or if it results in less than 2.2 mm of myometrial thickness remaining on pelvic ultrasound imaging. This video demonstrates niche repair using laparoscopic repair techniques.

Methods and Procedures: A 38-year-old G2P1011 with history of right salpingectomy for an ectopic pregnancy in 2008 and cesarean section in 2010 presents with chronic pelvic pain and dysmenorrhea. She is found to have a 14 x 13 mm niche on transvaginal ultrasound. Hysteroscopy confirmed the ultrasound findings. Laparoscopically, there was evidence of endometriosis which was excised using CO2 laser. In addition, a fistula was noted between the uterus and peritoneum at the level of the anterior lower uterine segment. A bladder flap is developed to mobilize the bladder inferiorly and fibrotic edges of the niche are excised using sharp dissection. The healthy myometrial tissue margins are reapproximated with 2-0 barbed vicryl suture in a running fashion in two layers.

Results: Hysteroscopic evaluation of the uterine cavity confirmed complete resolution of the defect. She reported minimal pain at her four week post-operative visit with no visible niche on transvaginal ultrasound. Three months of Lupron was recommended prior to trying to conceive.

Conclusions: Minimally invasive techniques combining hysteroscopy and laparoscopy should be considered for repair of cesarean scar defects.

JLSLS 20-051

ROBOTIC ASSISTED LAPAROSCOPIC RESECTION OF UTERINE ISTHMOCELE

Victoria Hastings, Michael Lewis

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Objective: To demonstrate a minimally invasive approach for repair of a uterine isthmocele, also known as a cesarean scar defect or niche.

Methods and Procedures: Clinical presentation, risk factors, and complications of uterine isthmocele are reviewed. Ultrasound images are shown as part of the diagnostic workup. The surgical procedure for defect repair is demonstrated with successful closure.

Results: A robotic assisted removal of a cesarean scar defect is demonstrated with hysteroscopic guidance using the robotic fluorescence imaging mode to visualize the site of the defect. After removal of the tissue, an absorbable monofilament suture is used to re-approximate the myometrium and over sewn with a barbed suture.

Conclusion: Minimally invasive treatment of isthmoceles can increase patient satisfaction with faster recovery time and decreased length of hospital stay.

JLSLS 20-052

ROBOTIC ASSISTED RESECTION OF CESAREAN SCAR DEFECT

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Introduction: According to the CDC, the cesarean section rate in the United States, in 2017, was estimated to be about 32%. This accounted for 1.2 million women in the US at risk for complications related to cesarean sections including pelvic pain, scar ectopic pregnancies and cesarean scar defects. Our objective in this video was to demonstrate a novel technique for robotic assisted laparoscopic resection of a cesarean scar defect using methylene blue.

Clinical Issue and Solution: We identified a multiparous female with history of previous cesarean section who presented with pelvic pain and abnormal uterine bleeding specifically intermenstrual spotting. On MRI imaging, defect in the anterior uterine wall was identified. She underwent hysteroscopy and robotic assisted resection of cesarean scar defect. Laparoscopically the anterior cul-de-sac was entered, and the bladder was separated off the lower uterine segment. Uterine scar defect was identified. The scar was removed with sharp scissors and electrocautery. The defect was closed with double layer of barbed suture. Using methylene blue, the uterine incision was noted to be watertight and tubal patency was confirmed. The procedure was uncomplicated with minimal blood loss and patient was discharged home on post-operative day one. At 6 week follow up patient was noted to have resolution of abnormal uterine bleeding and improvement in pelvic pain.

Conclusion: In conclusion, we demonstrated a technique for minimally invasive repair of cesarean scar defect along with the use of methylene blue to confirm watertight closure and patency of fallopian tubes at the conclusion of the procedure.

JLSLS 20-053

SINGLE PORT TRACHELECTOMY

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Background: Traditionally, trachelectomy has been performed via multi-port laparoscopic, vaginal, and abdominal approaches. Caution must be taken to avoid unintentional injury tract injury during trachelectomy, especially in cases with suspected intraabdominal disease or adhesions.

Objectives: To present the first documented case of single port trachelectomy and to review surgical methods to prevent urinary tract injury during trachelectomy.

Case: A 36-year-old gravida-0 female with persistent bleeding status post supracervical hysterectomy and cervical conization presented for single port trachelectomy. Under general anesthesia, lighted ureteral stents were placed and a manipulator was inserted into the cervix. Care was taken to identify the urinary tract. The bladder edge was identified by retrofilling the foley. Next, the ureters were identified using the Kelly sign, which is peristalsis after application of gentle pressure. In addition, the lighted ureteral stents were visualized. The cervix was displaced in the cephalad direction to maximize its distance from the ureters, and an integrated bipolar and ultrasonic vessel sealer was used to circumferentially incise the cervix. The cervix was removed, and the vaginal cuff was closed. The patient tolerated the procedure well.

Discussion: Single port trachelectomy is a safe, effective, and minimally invasive surgery. Methods to avoid urinary tract injury include a retrofilled bladder, the Kelly sign, ureteral stents, cervical displacement in the cephalad direction, and minimization of lateral thermal spread. Early detection and treatment of urinary tract injuries significantly decrease morbidity. Intraoperative cystoscopy and retrograde pyelogram can be performed to assist with detection of injuries.

JLSL 20-054

TWO PORT LAPAROSCOPIC REMOVAL OF LARGE MUCINOUS CYSTADENOMA

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Objective: This represents an extremely minimally invasive technique to removing an extremely large (20cm diameter) benign ovarian tumor. The tumor is taking up essentially all of the pelvis and abdomen but our minimally invasive technique is able to remove the mass with no visible scars what-so-ever.

Methods and Procedures: We created a surgical video to demonstrate the technique of removing a large mucinous cystadenoma with only two small ports. The surgery utilizes a novel technique of exteriorizing the mouth of the bag prior to removing the tumor. The video has been edited to explain the important aspects of the surgery in a reasonable amount of time.

Results: Technique was able to remove a large mass without spilling within the abdomen.

Conclusion: Demonstrated technique was performed successfully.

WEDNESDAY, SEPTEMBER 9, 2020 MULTISPECIALTY PRESENTATIONS

JLSL 20-055

★ **Paul Alan Wetter Award for Best Multispecialty Scientific Paper**

ROBOTIC VASCULAR SURGERY – 470 CASES

Petr Stadler

Na Homolce Hospital, Praha, Czech, Czech Republic

Objective: The aim of this retrospective study was to describe and evaluate our single center experience with robotic aortic and non-aortic vascular surgery to treat mostly occlusive disease and aneurysms.

Methods: From November 2005 to September 2019, 470 robot assisted vascular operations were performed. 310 patients were prospectively evaluated for occlusive disease, 120 patients for abdominal aortic aneurysm (AAA), 5 for a common iliac artery aneurysm, 10 for a splenic artery aneurysm, 1 for a internal mammary artery aneurysm, 12 patients for median arcuate ligament release, 8 for endoleak II treatment post endovascular aneurysm repair (EVAR), 2 for renal artery reconstruction and 2 cases were inoperable. 5 hybrid procedures in study were performed.

Results: 449 cases (96%) were successfully completed robotically, 2 patient's surgery (0,4%) was discontinued due to heavy aortic calcification and severe peri-aortitis respectively. In 19 patients (4%) conversion was necessary. The thirty-day mortality rate was 0,4% (2 patients), and early non-lethal postoperative complications were observed in 8 patients (1,7%).

Conclusions: Our experience with robot-assisted laparoscopic surgery has demonstrated the feasibility of this technique for occlusive diseases, aneurysms, endoleak II treatment post EVAR, for median arcuate ligament release and hybrid procedures. The robotic system provides a real opportunity for minimally invasive surgery in the field of vascular surgery and offers true mini-invasive surgical vascular interventions with all its advantages. Robotic AAA treatment and aorto-femoral represent the standard operations in vascular surgery, and they are not only possible but also safe and successful.

JLSL 20-056

A NEW ALGORITHM FOR TREATING CHRONIC PELVIC PAIN PATIENTS: A SEQUENTIAL PELVIC DESENSITIZATION THAT MAY AVOID UNNECESSARY INVASIVE SURGERIES

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Objective: Patients with Chronic Pelvic Pain (CPP) remain a big challenge for physicians to manage and improve patient's quality of life. We present a new algorithm of a pelvic sequential desensitization focused on the bladder, the pudendal nerve and myofascial pain.

Methods and Procedures: This is a prospective observational cohort study of 296 women aged 15 – 90yo with the diagnosis of CPP, that followed the treatment algorithm at Midwest Center for Endometriosis, Pelvic Pain in Lima, Ohio from 2016 – 2018. The evaluation started with an anesthetic challenge test (ACT) of the bladder followed by a protocol of bladder rinses and/or pelvic blocks.

Results: On the group that screened positive for ACT and followed bladder rinses: 84% of patients had a visual analog score (VAS) improvement of at least 50%; 64% had VAS improvement of 80% and 41% improved 100%. For the group that followed bladder rinses and pelvic blocks: 83% had a VAS improvement of 50%; 52% had an improvement of 80% and 26% improved 100%. On the negative ACT group that followed with pelvic blocks only: 73% of patients had at least 50% improvement of VAS.

Conclusion: The management of women with CPP usually starts with a surgical Laparoscopic procedure as the first step. With the significant improvement on VAS in our study we believe not only that we can avoid multiple major surgical interventions for many patients due to pelvic pain, but also we can successfully minimize uncontrollable post op pain and increase surgical outcome.

JLSLS 20-057

A CRITICAL ANALYSIS OF SURGICALLY CORRECTABLE BIRTH DEFECTS IN IVF INDUCED PREGNANCIES AS COMPARED TO NORMAL PREGNANCIES**Navdeep Singh Dhoat***All India Institute Of Medical Sciences (AIIMS), Bathinda, Punjab, India. SG PGI Lucknow, Lucknow, Uttarpradesb, India. Army Hospital Research and Referral, Delhi, Delhi, India*

Context: Infertility is an emerging problem and WHO reports primary infertility in India as 3.9% between the women in the age group of 25–49 years and 16.8% in the age group of 15–49 years. IVF is commonly used technique for the management of infertility in many countries. The data available from India is scarce due to of lack of central registry of IVF born children.

Aims: This study was designed to evaluate the birth defects in IVF born infants and compare the data with infants born after normally conceived pregnancies.

Study and Design: This was hospital-based case control prospective study conducted on 406 infants included in this study.

Methods and Material: Two groups, first IVF group and second control group with equal subjects. The babies were followed till the age of six months for any evidence of surgically correctable congenital anomalies.

Statistical analysis used: Data generated was subjected to standard statistical analysis.

Results: The incidence of birth defects was 8.9% in IVF Group and 5.4% in Control group. Gastro intestinal birth defects, Hirschsprung's disease, biliary atresia and enteric duplication cyst, Tracheo esophageal fistula, urogenital tract defect in IVF, Multicystic dysplastic kidney, hypospadias, PUJO, Undescended testes, vesicoureteric reflux found in both groups. Abdominal wall defects, inguinal hernia and omphalocele were found only in IVF group.

Conclusions: There was increased incidence of surgically correctable birth defects in IVF group as compared to naturally conceived infants.

Key Messages: There is paucity of reports in literature therefore this study was undertaken to identify and evaluate these anomalies.

JLSLS 20-058

CLEAR LAPAROSCOPIC VISUALIZATION: INITIAL EXPERIENCE WITH 5MM LAPAROSCOPE CLEANING DEVICE IN A HUMAN PATIENT**Jessica R Carlson***Curry Health Network, Gold Beach, Oregon, USA*

Objective: During minimally invasive laparoscopic surgery, the scope must repeatedly be removed and cleaned as it is obscured by blood, smoke, and water vapor. A laparoscope cleaning device permits *in situ* lens cleaning to quickly restore clear visualization without pausing surgery. A 10mm laparoscope cleaning device exists, and now a 5mm device has been developed for minimally invasive laparoscopic techniques. In this study, the 5mm laparoscope cleaning device was evaluated in the animal lab and for the first time in human subjects.

Methods and Procedures: In a prospective, open-label, observational study of the 5mm laparoscope cleaning device, the device was used in two porcine models simulating laparoscopic procedures. Clinical use in laparoscopic surgery was evaluated in ten laparoscopic cholecystectomies. Both studies used similar metrics for evaluation: total clicks required to restore visibility; performance with common obstructions (smoke, fog, fat, and blood); number of scope removals for cleaning; and the surgeon's subjective evaluation.

Results: The 5mm laparoscope cleaning device restored a clear laparoscopic view in 1 click in almost all situations. An exception was blood dip (mode = 5 clicks) in both studies. During laparoscopic surgery, the scope was never removed for cleaning.

Conclusion: In early studies, 5mm laparoscope cleaning device provided effective *in situ* laparoscopic lens cleaning with a range of common obstructions. The device allowed minimally invasive surgery to continue uninterrupted with clean and clear visualization.

JLSLS 20-059

DRONE FLIGHT PROFICIENCY AND ITS CORRELATION WITH LAPAROSCOPIC SURGICAL SKILLS ACQUISITION**James C. Rosser, Jr.,^{1,2} Brett Parker,³ Sarah Alam,⁴ Gabrielle Yee,¹ Harris Alam⁵***¹Jacobs School of Medicine and Biomedical Sciences, University at Buffalo, Buffalo, NY, USA**²Gila Regional Medical Center, Silver City, NM, USA**³The Oregon Clinic, Portland, OR, USA**⁴Wright State University Boonshoft School of Medicine, Dayton, OH, USA**⁵University of Central Florida, Orlando, FL, USA*

Objective: To evaluate if drone flight simulation skills are associated with performance of laparoscopic surgical tasks and intracorporeal suturing.

Methods and Procedures: Eight participants underwent Top Gun, a validated laparoscopic surgical skills training course which measures time to completion and error suppression for the following tasks: 1) intracorporeal knot tying 2) cobra rope drill 3) pea drop drill 4) terrible triangle drill. The group was made up of two medical students and six surgical residents. There were five females and three males. At the same time, participants underwent drone flight skill training with a computer simulation program. Time to completion and error suppression were measured.

Results: Our results showed a moderate correlation between drone simulation skills and suturing ($p = 0.659$) and the pea drop task ($p = 0.638$). There were slight correlations found with cobra rope ($p = 0.345$) and the terrible triangle task ($p = 0.254$).

Conclusion: In recent years more surgical programs have developed skill labs and laparoscopic skill training curriculums. However, one continuing problem is securing participation from trainees. This study suggests that an engaging pop-culture icon, drones and drone flight training, can be used alongside a validated laparoscopic skills training program to promote skill acquisition. The study although limited by a small sample size shows that this is fertile ground for future evaluation.

JLSLS 20-060

NOVICE SURGEON'S NONINVASIVE STRESS ESTIMATION DURING TRAINING IN A HIGH-END SIMULATOR**Konstantinos Georgiou,¹ Nikola Boyanov,^{2,3} Konstantinos Toutouzas,¹ Ninos Oussi,^{4,5} Dimitrios Thanasis,⁶ Tanya Deneva,^{7,8} Lars Enochsson,⁹ Blagoi Marinov²***¹1st Department of Propaedeutic Surgery, Hippokratia General Hospital of Athens, Athens Medical School, National and Kapodistrian University of Athens, Athens, Greece**²Medical Simulation Training Center, Medical University of Plovdiv, Plovdiv, Bulgaria**³Department of Gastroenterology, University Hospital "Pulmed", Plovdiv, Bulgaria**⁴Division of Surgery, Department of Clinical Science, Intervention and Technology (CLINTEC), Karolinska Institutet, Stockholm, Sweden*

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Objective: Simulated laparoscopic surgery training can be challenging and stressful for the novice trainee. The absence of a reliable stress detection method makes estimating trainees' mental stress difficult to quantify and to subsequently use stress management methods in order to increase performance. This study concomitantly measures the responses of four saliva stress biomarkers and compares them to the video score (VS) achieved by novices in a reproducibly stressful simulation environment.

Methods and Procedures: 36 male novice trainees were enrolled. After an orientation phase, a saliva specimen was collected for cortisol (sC), alpha-amylase (sAA), Chromogranin A (sCgA) and secretory immunoglobulin A (sIgA) measurements (baseline phase, BL). Then the simulation exercise phase (E) started, with the subjects trained in a basic suturing module for 15 minutes. Immediately after, another saliva sample for measuring the above cited biomarkers was collected. The whole experiment was videotaped. VS was calculated. The percentage (E-BL)_{diff} of each of the four saliva biomarkers was calculated and compared with VS using Pearson's correlation coefficient as well as Akaike Information Criterion (AIC_c) (Table 1).

Results: sCgA_{diff} showed the best correlation with VS, followed by sAA_{diff}. Among all possible combinations of the saliva biomarkers the blend of sAA_{diff} with sIgA_{diff} and sCgA_{diff} was the best way to predict VS.

Conclusions: sCgA and sAA, been easy to noninvasively collect saliva stress biomarkers can reliably estimate the novice laparoscopist's performance in our simulation setting, and therefore can be used for monitoring stress management.

JLSL 20-061

COMPARISON OF TACK FIXATION WITH SELF-FIXATING MESH IN TOTALLY EXTRA PERITONEAL INGUINAL HERNIOPLASTY: AN INTERIM ANALYSIS OF A DOUBLE BLIND RANDOMIZED CLINICAL TRIAL

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Objectives: The incidence of chronic inguinodynia supposedly increases with the use of tacks for mesh fixation. We hypothesized a possibility of reducing this risk by using self-fixating mesh instead. This study was conducted to assess if using self-fixating mesh in laparoscopic inguinal hernia repair can decrease the incidence of acute and chronic groin pain, without compromising the safety.

Methods and Procedures: A double blind randomized clinical trial was conducted to study the post-operative pain using VAS score, Quality of Life using Carolina Comfort Scores and inflammatory markers using TLC, CRP and ESR, in either arms and a per protocol analysis was done.

Results: Thirty-eight were randomized to tackler and 40 to the self-fixating arm. Subsequently, two from the former and one from the later arms needed exclusion, and the remaining were analysed. The VAS scores at 48 hours were significantly higher in the self-fixating arm. However it did not corroborate with any increase in levels of

inflammatory markers, analgesic consumption or the Carolina Comfort Scores. Three patients in the self-fixating group and one in the tacklers group reported chronic groin pain, although it was not statistically significant. The incidence of pneumoperitoneum was higher in the self-fixating group (28 vs 17, *p* value = 0.024). The duration of the procedure and the mesh deployment time were similar in both arms.

Conclusion: Self-fixating mesh has the potential to be a safe alternative to tack fixation in laparoscopic inguinal hernia repair, with comparable post-operative pain and quality of life scores.

JLSL 20-062

GALLSTONE ABSCESS, DEFINING A CLINICAL SYNDROME

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Objective: To determine if patients with symptoms from dropped gallstones share clinical features that can be described as a clinical syndrome.

Methods and Procedures: We performed a literature review using the PubMed database for laparoscopic cholecystectomy involving spilled gallstones. We reviewed three patient charts who required operative intervention after dropped gallstones.

Results: We identified more than 250 cases of postoperative complications due to dropped gallstones. Complications due to dropped gallstones are rare, and are estimated to occur less than 1% of the time. These include intraperitoneal abscess and fistula. We treated three patients with gallstone abscess at our institution in the last three years. Each presented with chronic right upper quadrant and flank pain and varying constitutional symptoms. One patient had a subtotal cholecystectomy. Imaging studies showed perihepatic/diaphragmatic loculated abscess with calcified gallstones. Two of the patients had right pleural effusion. Pathologic examination demonstrated gross pigmented gallstones and microscopic inflammatory infiltrates. In two of the cases, gallstone fragments with associated histiocytic infiltration was seen on H&E stain. Microbiology demonstrated *Enterobacter aerogenes* and *Enterococcus faecium* in one patient and *Halfnia alvei* in another. The sample was not adequate in the third patient. Each patient had choledocholithiasis. Two patients were treated postoperatively with ERCP, one preoperatively.

Conclusion: Patients experiencing symptoms from dropped gallstones share clinical features. These patients should be treated with laparoscopic abscess washout and debridement, with complete removal of residual gallstones. In the era of increasing subtotal cholecystectomy, we should prepare for higher incidence of dropped gallstones and abscess.

JLSL 20-063

NESA'S NEW VIEZION PROJECT: THE FUTURE OF POST OPERATIVE ONCOLOGY

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Objective: Despite progress in various medical fields, the suggested post-operative treatment is often based on statistical experience. A new concept named VIEZION was started by the NESA in order to improve the post-surgical outcome.

Methods and Procedures: Oncological Tumor Boards in different institutes are meeting regularly with the same members, therefore similar recommendations are repeatedly heard. To improve the post-operative outcome, the NESA initiated an *international oncological advisory board* with opinion leader from different countries, comprising basic science members, geneticists, stem-cell specialists, surgeons and oncologists. Physicians and patients from different countries are already approaching the board and occasionally original and non-conventional modes of treatments are suggested. Two new and modified modes of

treatment were added to our board arsenal, the Pre-Implantation Factor (PIF) and Propofol, an anesthetic agent which is associated with improved survival in patients having cancer surgery.

Results: The board was approached already eleven times by physicians and patients from six different countries, and recommendations were given after discussions and brainstorming, in three cases (27%) which will be introduced, the final recommendations were different from the initial ones the patients received in their countries.

Conclusion: Although only at the beginning, it seems that the involvement of consultants from different institutions and disciplines will add value to the traditional local Tumor Boards, and will also enable physicians to be aware of experience of other centers.

JLS 20-064

UPPER EXTREMITY INJURY IMPACT ON ROBOTIC SURGICAL PRACTICE AND GLOBAL IMPLICATIONS IN TEMPORARY AND LONG TERM UPPER EXTREMITY DEFICIENCIES AND DISABILITY IN ROBOTIC GYNECOLOGIC SURGEONS

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This series investigates the impact of upper extremity injury, repair, immobilization, and rehabilitation in gynecologic robotic assisted surgery. An observational case series tracking 2 surgeons from injury to return to robotic platform with patient safety and proficiency metrics was done. Physician A had shoulder arthroplasty with immobilization for 6 weeks. After 2 weeks, simulation metrics in full shoulder immobilizer scored in the superior range. Porcine surgery showcased range of motion adaptation by clutch technique and ease of surgery was perceived by index surgeon and observing instructors. Return to full robotic surgery at 4 weeks post-op was without incidence. Physician B had complete right Biceps tendon avulsion requiring repair then complete immobilization of the elbow joint with forearm fixed at 90 degrees. After 4 weeks robotic simulation on console and proctored evaluation showed smooth surgical ergonomics wearing the elbow orthotic. Standard open and laparoscopic clearance would have taken an additional 4 weeks with significant impact to patients awaiting surgery and the surgeons. There were no unanticipated incidents and no adverse outcomes. Reassurance from simulation metrics, porcine model, and observational analysis validated early return to the OR. Surgeons annually with short and long term upper extremity disability contribute to millions of dollars in lost revenue. Unique design of robotic platforms facilitates return to surgical practice and will have implications worldwide on careers of surgeons with deficiencies of longer duration.

JLS 20-065

BREAKDOWN OF LOOP ELECTRODE OF BIPOLAR RESECTOSCOPE DUE TO UNEXPECTED CONTACT WITH RETURN-ELECTRODE IN FIBROID RESECTION: INHERENT RISK IN CONSTRUCTION DESIGN OF BIPOLAR RESECTOSCOPE AND CONFORMED TECHNICAL PROCEDURE

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Objective: Bipolar resectoscope is preferred to monopolar resectoscope in relatively low risk of water intoxication and in free from obturator nerve stimulation that may lead to uterine perforation.

Case: 40 years old, G2P2. Submucous fibroid of 4cm protruding less than 50% with hypermenorrhea. Operation time was 67minutes, and total blood loss was uncountable. Patient discharged on next day after the operation.

Result: During the course of fibroid resection by using bipolar resectoscope, a spark with explosion observed, and loop electrode broke down. By reviewing the operation video, arrangement of loop and nearby return electrode is supposed to be a cause of this phenomenon. Our hypothesis is that direct contact of loop electrode and return electrode results in electric discharge by making a short circuit. Unexpected spark with explosion occurred in different setting, and contact of loop electrode and optical scope supposed the cause of this phenomenon. In this case, metallic sheath of optical scope acted as return electrode. We conducted experiments that reproduced this phenomenon of two cases, and showed an inherent risk of the approximated structure of bipolar resectoscope. Our technique of fibroid resection without push motion examined in this video.

Conclusion: In fibroid resection with bipolar resectoscope, maximum attention should be paid so as not to deform loop electrode. Push motion of loop electrode without power should strictly be prohibited.

JLS 20-066

MINIMALLY INVASIVE SEARCH FOR A MISSING VIBRATOR

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Objective: Injuries related to sexual activity and usage of devices related to sexual activity are very common cause of emergency room presentation. Malfunction of these items, particularly devices that are intended for insertion into the vagina into the rectum or penetrating the vaginal wall are also common occurrences. We report a case of an unusually narrow vibrator becoming entrapped in the patient's bladder and mimicking the appearance of being intra-abdominal on physical exam and x-ray.

Methods and Procedures: Case Report and Description of Workup in video format.

Results: Repeated vaginal and rectal examinations from the emergency room staff and the gynecologist showed no evidence of the device intravaginally or intrarectally, and the assumption was made that the device must have penetrated the vaginal wall and into the abdominal cavity. The patient had limited tenderness on examination therefore it was not assumed that rupture of the colon had occurred, however the patient was consented for possible colostomy and repair of the bowels prior to laparoscopic exploration. Laparoscopic exploration showed the device to be within the bladder and this was demonstrated by gentle manipulation of the Foley bulb as well as by moving the sponge stick placed in the patient's vagina at time of laparoscopy.

Conclusion: Unusual vibrator with extremely narrow diameter became lodged in the patient's bladder. The device was removed with cystoscopic manipulation following laparoscopic exploration. Although the patient did well and had no complications, laparoscopy could have been avoided if the possibility of intra-urethral insertion had been considered preoperatively.

JLS 20-067

ENDOSCOPIC REPAIR OF COMMON ILIAC VENOTOMY

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We present a stepwise approach to managing major vascular injury during endoscopic surgery. A 60-year-old woman with diagnosis of Stage 1 endometrial adenocarcinoma was scheduled for a robotic-assisted hysterectomy with bilateral salpingo-oophorectomy and sentinel lymph node excision. During the course of the excision of the right sentinel lymph node, the right common iliac vein began to bleed. Initial management of bleeding can include application of pressure with a sponge. This temporizing measure provides time to allow operating room staff to prepare for possibility of conversion of the procedure to laparotomy and to alert anesthesia to the possible need for urgent transfusion. The edges of the venotomy are grasped superficially to ensure that repair will not cause total occlusion or restriction of the vessel. An absorbable suture with a lapra-ty is used to close the venotomy. After closing the venotomy, a suture clip applicator is used to clip the end of the suture securely. Lastly, a hemostatic agent is placed over the venotomy site; surgical fibrillar absorbable hemostat was selected in this case. Above all, it is important to remain calm. Major vascular injury in endoscopic surgery can be managed successfully without conversion to laparotomy. The patient was admitted for hemodynamic monitoring. On postoperative day 1 she was meeting all milestones. CBC revealed a non-anemic hemoglobin. At 6 week follow up the patient continued to do well.

JLS 20-068

LAPAROSCOPIC LINX REMOVAL

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Objective: The LINX procedure is a commonly proposed alternative to traditional anti-reflux surgery. Using magnets to recreate the lower esophageal sphincter, the LINX procedure is primarily placed using minimally invasive surgical techniques. LINX device is not without complications. However, there is a paucity of information and instructions on how to successfully remove the device. The purpose of our video is to describe the minimally invasive technique of laparoscopic LINX removal.

Methods and Procedures: Patient was 43-year-old female with a past medical history of obesity (BMI 39), hypertension and GERD who underwent laparoscopic LINX placement one year prior to removal. She presented for evaluation due to symptoms of dysphagia, reflux and nausea. Fluoroscopic upper GI series showed evidence of delayed esophageal emptying. Informed consent was obtained and patient was taken to the operating room for removal.

Results: Our instructional video details the laparoscopic removal of the LINX system. This was performed through the steps described in the video presentation.

Conclusion: LINX system can be successfully removed through laparoscopy. Dissection of the LINX system must be carried out carefully in order to avoid damage to the stomach or esophagus. Following her operation, patient was discharged home on post-operative day 1. She tolerated a full liquid diet prior to discharge. She is scheduled for follow-up in order to undergo laparoscopic Roux-en-Y gastric bypass.

JLS 20-069

LAPAROSCOPIC MANAGEMENT OF CLOSED-LOOP BOWEL OBSTRUCTION BY BROAD LIGAMENT HERNIA

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We present a 43 year-old female who presented to our emergency room with acute onset of severe abdominal pain for one day. She denied any significant past medical history. She had previous history of cesarian section and open appendectomy. She reported a history of intermittent constipation over recent months, but otherwise, she denied

nausea, vomiting, fevers, bloating, change in menstruation, difficulty with urination or oral intolerance. On initial presentation, she was hemodynamically stable. She was mildly distended and tender on the right side of her abdomen without any peritonitis. Labs were significant for a WBC of 11.16, but otherwise within normal limits. CT scan of her abdomen and pelvis demonstrated distortion of the right lower quadrant mesentery with a loop of small bowel involved and displacement of the cecum into the pelvis, concerning for internal hernia. On laparoscopic exploration, it was found that the terminal ileum and right colon were strangulated by the right fallopian tube and ovary. Upon dissection and reduction of the bowel, a type 2 broad ligament hernia was noted. The patient underwent laparoscopic lysis of adhesions and right salpingo-oophorectomy. Post-operatively, the patient had an uneventful recovery.

JLS 20-070

LAPAROSCOPIC LIGATION OF MIDDLE SACRAL AND INFERIOR MESENTERIC ARTERIES FOR PERSISTENT TYPE 2 ENDOLEAK

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Objective: A 61 year old male with past medical history of Hodgkin's Lymphoma- chemotherapy, radiation therapy, autologous stem cell transplant in 2011 and an increasing juxta-renal abdominal aortic aneurysm, underwent elective AAA repair (Fenestrated EVAR). Later developed a persistent type 2 endoleak. Interventional radiology attempted a Trans- Lumbar approach to sac (Left L3). However, they were unable to access endoleak in percutaneous manner via translumbar aortogram. They failed to traverse through the underside of the sac to cannulate the nidus. Instead, the vascular and minimally invasive surgery teams decided to attempt a novel approach to perform a laparoscopic ligation of middle sacral and inferior mesenteric arteries.

Methods and Procedures: Diagnostic laparoscopy with ligation of inferior mesenteric and medial rectal arteries by way of endoclipping. Obtained pneumoperitoneum with Veress needle. A 12mm trocar and three other 5mm trocars placed. Created a plane underneath the mesentery of the sigmoid. The right and left iliac vessels as well as both the ureters were identified. Created another plane overlying the sacral promontory. Found a feeding vessel (middle rectal artery) going into the aneurysm, which was dissected and clipped. The IMA was also clipped.

Results & Conclusion: Patient recovered well from the surgery, was ambulatory, and tolerated diet. Later discharged home without incident. Laparoscopy with ligation of inferior mesenteric artery and medial rectal artery by way of endoclipping is a feasible option for repair of a type 2 endoleak. This case showcases an ever-expanding role of laparoscopic technique.

THURSDAY, SEPTEMBER 10, 2020 MULTISPECIALTY PRESENTATIONS

JLS 20-071

POSTOPERATIVE NARCOTIC USE IN ROBOTIC VS. TRADITIONAL LAPAROSCOPIC HYSTERECTOMY

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Objective: As a consequence of the high incidence of opioid addiction in the US, clinicians are encouraged to reduce patient use of opioids following surgery. The objective of the present study was to examine analgesic use following total hysterectomy performed robot assisted (ROB) or via traditional laparoscopy (LAP).

Methods and Procedures: The study was a retrospective analysis of the surgical outcomes of 149 total hysterectomies, i.e. 97 ROB and 52 LAP. The primary study outcome was postoperative use of analgesics (opioids, NSAIDs, acetaminophen, none). Secondary outcomes included operative time, estimated blood loss (EBL), peri- and postoperative complications, and length of hospital stay (LOS).

Results: Postoperatively, 28.8% of ROB patients requested opioids for pain in comparison to 50% of the LAP procedures ($\chi^2 < 0.05$). The percentage of patients who requested NSAID for pain was similar between the procedures (31.9% ROB vs. 36.5% LAP). Acetaminophen use was higher for the ROB patients (27.8% ROB, 9.6% LAP), as was the percentage of ROB patients who required no postoperative medication (11.3% ROB, 3.8% LAP). Robotic vs. traditional laparoscopy was associated with a longer operative time (140 vs. 81 min, $p < 0.01$) but significantly less blood loss (55 vs. 108 cc, $p < 0.01$), comparable postoperative complications (7.7% vs. 9.6%), and a trend ($p < 0.10$) toward a shorter LOS (34 vs. 47 hours).

Conclusion: In a retrospective analysis, a robotic assisted approach to total hysterectomy, as compared to a traditional laparoscopic approach, reduced by nearly half the number of patients who required opioids for pain postoperatively.

JLSLS 20-072

BENIGN PAROXYSMAL POSITIONAL VERTIGO FOLLOWING STEEP TRENDLENBURG POSITION FOR GYNECOLOGIC SURGERY

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Objective: Steep Trendelenburg positioning has been associated with benign paroxysmal positional vertigo (BPPV) in prior case reports. This case report will review one such case and suggest a preventative measure.

Methods and Procedures: A 45-year-old woman with severe symptoms of endometriosis presented for surgical treatment. She underwent a laparoscopic hysterectomy, bilateral salpingectomy, and right ovarian cystectomy. Throughout the entire surgery, the patient had been in steep Trendelenburg positioning. After surgery, she complained of vertigo and dizziness and was diagnosed with BPPV. The patient underwent physical therapy for treatment of BPPV and her symptoms subsided after 7 weeks. Three years later, the patient sought further treatment for endometriosis and underwent a laparoscopic left oophorectomy. Given the prior episode of vertigo, the patient was placed in slight Trendelenburg position with care to avoid steep Trendelenburg position.

Results: Post-operatively, she did not experience any vertigo or dizziness.

Conclusions: Patients are often positioned in a steep Trendelenburg position during gynecologic surgery and this has been associated with the development of BPPV. Limiting the amount and duration of Trendelenburg during gynecologic surgery in a patient who had previously experienced post-operative BPPV may have prevented recurrence of BPPV and may be considered in other patients with a history of BPPV who are undergoing gynecologic surgery.

JLSLS 20-073

CASE REPORT: URETERAL TRANSECTION DESPITE COMPLETE URETEROLYSIS IN ENDOMETRIOSIS RESECTION IN PATIENT WITH DOUBLE URETER

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Objective: To report the possibility of ureteral injury despite ureterolysis in patients with unknown double ureter.

Methods and Procedures: Case report of 30 year old Caucasian woman, who underwent laparoscopic resection of endometriosis at a freestanding ambulatory surgery center in Secaucus, NJ.

Results: Patient presented with dysmenorrhea and dyspareunia. Previous surgeries included hysterectomy and bilateral salpingo-oophorectomy. After hormone replacement therapy, patient's symptoms recurred. CT scan revealed possible residual or recurrence of disease. Patient was then scheduled for laparoscopic resection at our ambulatory surgery center. Endometriotic lesions involving ureter with fibrosis and scarring were noted. Ureter was dissected away from peritoneum at pelvic brim. Paravesical and pararectal spaces were partially opened. Ureter was completely lateralized from level of pelvic brim to obturator space. After complete lateralization, the ureter was dissected away from endometriotic implants. Patient was discharged the same day. Post-op day 3, patient had flank pain on right side and was sent to ER. CT revealed patient had a double ureter on the right, both opening in the bladder, where the smaller ureter was fully transected. Patient was seen by an expert urologist who performed robotic-assisted uretero-ureteral anastomosis.

Conclusion: Complete ureteral duplication is a rare renal anatomical variation with incidence of 0.16-0.32%, where most patients are asymptomatic. This anatomical variation is a risk factor for ureteral injury during any pelvic surgical procedure. Despite surgeon expertise with complete ureterolysis, which may give a false sense of safety against ureteral injury, ureteral duplication should be suspected in symptomatic post-op patients.

JLSLS 20-074

REAL WORLD ULTRASOUND RELIABILITY OF DIAGNOSING GALLBLADDER POLYPS AT A COMMUNITY HOSPITAL: A FIVE-YEAR REVIEW

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Objective: Polyps are reported on 1-10% of routine transabdominal ultrasound studies of the gallbladder. Prior studies have reported poor sensitivity and specificity for this diagnostic modality at determining malignant potential of polyps. The purpose of this study is to determine the incidence of gallbladder polyps documented on ultrasound at a community hospital, evaluate the congruency of ultrasound with final histopathology, and explore factors which may improve ultrasound accuracy at diagnosing true polyps.

Methods and Procedures: We conducted a retrospective cohort study of patients undergoing a cholecystectomy at Danbury Hospital between 2014 and 2019, identifying those with a pre-operative ultrasound mention of a "polyp" or "mass." We assessed the congruency of ultrasound findings with pathology reports.

Results: Of the 2,549 cholecystectomies performed, 1,944 (76%) had a pre-operative ultrasound. Of those, 98 (5.0%) had a mention of a polyp, measuring an average of 8.1mm (SD 7.1mm). Three (3.1%) specimens were identified as adenomas on final histopathology; the majority were benign pathologies including cholesterol polyp (18), cholesterosis (20), adenomyoma (4), adenomyomatosis (7), and chronic or acute cholecystitis (44). Interestingly, only 1 of the 3 adenomas measured

greater than 10mm on ultrasound, the accepted indication for surgical resection.

Conclusions: The accuracy of transabdominal ultrasound in diagnosing true polyps is poor, with only 3% of polyps identified as adenomas based on pathology. Surgeons should use caution when making clinical decisions based on polyps identified on ultrasound, and more stringent diagnostic criteria is needed in order to decrease the false positive rate for diagnosis and screening.

JLS 20-075

METHYLENE BLUE INJECTION IN GALL BLADDER: A NEW TECHNIQUE USED TO PREVENT BILE DUCT INJURY DURING DIFFICULT LAPAROSCOPIC CHOLECYSTECTOMY

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Objective: Bile Duct Injury (BDI) remains the most serious complication potentially life-threatening of both open and laparoscopic cholecystectomy, are mainly due to the failure to adequately recognize the anatomy of the Calot's triangle especially with starting surgeons and difficult gall bladder anatomy. Many techniques have been proven to decrease injury to the bile ducts which adds more costs, need skilled persons, special equipment and prolonged time of surgery. A new trial to avoid bile duct injury using Methylene blue to color the biliary structures in a new easy technique and new objectives that support its use.

Methods: Injection of 0.5 percent diluted methylene blue into the gall bladder for coloration of biliary tree. The dissection of Calot's triangle was much more safely performed after coloration of the biliary tree.

Results: From April 2013 till April 2015 Fifty patients with chronic calculous cholecystitis admitted in this study from both sexes and different ages aiming to lower the common bile duct injury during laparoscopic cholecystectomy 8 patients (16%) had single stone, while 42 patients (84%) had multiple stones. injection using suction needle instead of Veress needle through the working port. All patient's gall bladders painted, 46 cystic ducts were painted (92%), with consequently common bile ducts were painted (P-value < 0.001). None of the patients develop bile duct injury.

Conclusion: The technique is easier to perform, not costly, without any radiation exposure, without using special equipment and/or less time consuming than any other maneuvers used to visualize the biliary tree.

JLS 20-076

MINIMIZING THE SURGICAL TRAUMA: USING ONLY TWO 5MM TROCARS FOR COMMON LAPAROSCOPIC PROCEDURES

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Background: Miniaturizing common laparoscopic procedures such as appendectomy (LA), hernia repair (HR), and cholecystectomy (LC) by using less and smaller ports could be a cost effective alternative to NOTES, SILS and robotic assisted techniques.

Patients and Methods: During a two year period, 75 patients underwent common laparoscopic procedures using only two 5mm ports (mostly left or right upper quadrant and umbilical). During exploration decision is made if additional ports are needed, surgery can be done with one working port or Keith needle suspension, a suture passer or needle mini-grasper could be used.

Results: There were 32m/43f median aged 46.9 (range 11.2–79.3) years. Procedures included 21 LA, 26 LC, one combined LA&LC, 15 ventral HR, five laparoscopic gastric band removals and seven other laparoscopic interventions. In ten cases only 2 ports were used (including seven ventral HRs). Nine LA and seven ventral HRs were

done with 2 ports and a suture passer; in 49 cases 2 ports and a mini-grasper were inserted. No increase in procedure time when compared to standard technique was observed. Sixty-three percent of cases were outpatient procedures, 25% of patients were placed in 23 hours extended recover and only 12% of patients required admission. No major complications attributable to the "micro-invasive" technique occurred and patient acceptance and satisfaction was high.

Conclusions: Many common laparoscopic procedures can be done using only two 5mm ports, which seems to be a simple and cost effective alternative to other new approaches.

JLS 20-077

PARTIAL ADRENALECTOMY IN BILATERAL PHEOCHROMOCYTOMA: EXPERIENCE OF SINGLE INSTITUTION

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Objective: In the era of minimal invasive surgery, cortical sparing adrenalectomy is emerging in the management of bilateral pheochromocytoma. Total adrenalectomy has possibility of lifelong steroid dependence and risk of Addisonian crisis after bilateral adrenalectomy. Cortical sparing adrenalectomy may be proposed to eliminate the necessity for steroid replacement, but can increase the risk of recurrence. Herein, we described clinical results from adrenal surgery in bilateral pheochromocytoma patients between cortical sparing adrenalectomy and total adrenalectomy.

Method & Procedures: We retrospectively reviewed records of patients with bilateral pheochromocytomas treated in Seoul National University Hospital from January 1998 to December 2015. Thirteen patients were treated with subset analysis of adrenal function and recurrence between total adrenalectomy and cortical sparing adrenalectomy group.

Results: Of the thirteen patients who underwent adrenalectomy for bilateral pheochromocytomas, eleven patients underwent cortical sparing adrenalectomy. There were two recurrences (2/11, 18%) and two patients who required steroid hormone supplementation in this group (2/11, 18%). Total bilateral adrenalectomy was performed in two out of thirteen patients. There is one recurrence (1/2, 50%) and all patients in this group require steroid hormone supplementation (2/2, 100%).

Conclusion: In our study, two patients need steroid replacement and two patients recurred in cortical sparing adrenalectomy group in this study. Therefore, cortical sparing adrenalectomy can be performed in bilateral pheochromocytoma patients avoiding lifelong steroid replacement and recurrence.

JLS 20-078

LAPAROSCOPIC DONOR NEPHRECTOMY IN PATIENTS WITH A CIRCUMAORTIC LEFT RENAL VEIN: FEASIBILITY AND OUTCOMES

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Objective: Laparoscopic donor nephrectomy (LDN) is technically more challenging in patients with anomalous renal vasculature, and may exclude certain donors as candidates. We report our experience and results of LDN in patients with a circumaortic left renal vein and critically analyze our results.

Methods and Procedures: An IRB approved retrospective review was performed of all laparoscopic donor nephrectomies performed by a single surgeon in patients with a circumaortic left renal vein from 2003-present. Study variables included operative time, estimated blood loss, warm ischemia time, length of hospitalization, donor complications, and allograft function.

Results: Ten patients (6 males/4 females) with a circumaortic left renal vein underwent LDN. The mean age was 36.4 (range 28–51), BMI 29 kg/m² (range 25–33), operative time 239 min (range 187–315), estimated blood loss 127 mL (range 50–250), warm ischemia time 163 seconds (range 92–236), and length of hospital stay was 2.3 days (range 2–3). There were no conversions to an open procedure. One intraoperative complication involved a stapler misfire on the retroaortic portion of the circumaortic renal vein that was salvaged. There was 1 minor postoperative complication (Clavien I-II). Recipient survival and allograft function at 2 years was 100% with a nadir recipient creatinine level of 1.31 mg/dl.

Conclusions: Laparoscopic donor nephrectomy performed in patients with a circumaortic left renal vein yields comparable results in terms of graft survival to the reported rates of donor nephrectomies with normal renal vasculature. In appropriately selected patients, this approach is safe and does not negatively impact the complication rate or recipient outcomes.

JLSLS 20-079

PREVALENCE OF PHYSICIAN BURNOUT IN UROLOGY: DISPARITY BETWEEN PEER REVIEWED ARTICLES AND NON-PEER REVIEWED SOURCES

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Objective: Physician burnout within minimally invasive surgery (MIS) is rapidly increasing. We aim to assess the prevalence of peer reviewed journal articles pertaining to MIS (robotic/laparoscopic) urologist burnout as compared to non-peer reviewed sources including newspapers, magazines, and the internet.

Methods and Procedures: To retrieve relevant citations, PubMed/MEDLINE was searched using combinations of Medical Subject Headings (MeSH) and text words for “burnout”, combined with MeSH terms/variations of “minimally invasive”, “robotic”, “laparoscopic”, “urologist”, “urology”. Urology journals published in English and currently indexed for MEDLINE were searched to identify other relevant citations. Non-peer reviewed sources were retrieved using internet search engines.

Results: Sixteen peer reviewed articles were identified focusing solely on burnout in urology and 13 articles focused on multispecialty burnout with specific mention of urology. Results from the AUA Annual Census, and other articles, added 12 more reports. In total, 41 validated articles addressed urology burnout with no mention of MIS urologists. Google Scholar was searched and 4580 citations were retrieved. In contrast, an internet search using the same terms yielded over 970,000 results.

Conclusions: There is a paucity of peer reviewed literature on the incidence of burnout among urologists, and no specific mention of urologists specializing in MIS. This finding is concerning given the known deleterious impact of physician burnout. With only 41 peer reviewed articles and more than 970,000 non-peer reviewed sources, it is evident that more dedicated research is warranted with regards to identifying the prevalence of burnout among MIS urologists in order to allocate resources to combat this issue.

JLSLS 20-080

IMMATURE TERATOMA DIAGNOSIS IN PREGNANCY AFTER LAPAROSCOPIC OVARIAN CYSTECTOMY

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Objective: The purpose of this video is to demonstrate that laparoscopic ovarian cystectomy can be safely performed in pregnancy. We further briefly discuss the management and prognosis of immature teratoma in pregnancy.

Methods and Procedures: We present the case of a 34 year-old nulliparous woman who presented at 18 weeks 2 days with suspected 9cm right ovarian dermoid cyst. She was asymptomatic but her cyst had increased in size from 2cm to about 9cm at 16 weeks. Surgical intervention is recommended. She presents as a second opinion as she strongly desired a minimally invasive surgery. We discuss considerations for laparoscopy in pregnancy. We begin the surgery by placing a 5-mm umbilical port with optical trocar guidance after closed entry with Veress needle. Two 5-mm trocars are placed in bilateral lower quadrants and a 10-mm port is placed in the left lower quadrant. We use a combination of monopolar scissors for electrosurgery and blunt dissection with Maryland and Cobra traumatic graspers. We highlight the importance of retraction and staying in the correct avascular plane to reduce bleeding. Awareness of the location of the infundibulopelvic ligament is important so as to avoid avulsion which is highlighted. Hemostasis is further obtained with a hemostatic agent.

Results: A total of 3 cysts are safely removed laparoscopically. Unfortunately, final pathology demonstrates immature teratoma and we discuss that this requires a multi-disciplinary approach for management.

Conclusion: Laparoscopic ovarian cystectomy can be safely performed in pregnancy. Given the rarity of immature teratoma in pregnancy, management requires a multi-disciplinary approach.

JLSLS 20-081

SURGICAL MANAGEMENT OF OVARIAN REMNANT CAUSING HYDROURETER

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Objective: Ovarian remnant syndrome is an uncommon condition suspected by clinical history and diagnosed surgically. The remnant and surrounding adhesive disease can cause pain from compression of nerves and can also result in hydroureter. This video demonstrates excision of an ovarian remnant which led to decompression of hydroureter and improvement in pain.

Methods and Procedures: A 44-year-old nulligravid with a history of endometriosis and laparoscopic left salpingo-oophorectomy presents with dysmenorrhea and left-sided pelvic, back, and leg pain. Pelvic US and MRI reveal an arcuate uterus, right adnexal endometrioma, and pelvic adhesions. CT urogram shows left ureteral narrowing possibly from an endometriotic implant. The patient underwent a laparoscopic total hysterectomy, right salpingo-oophorectomy, left ovarian remnant excision, treatment of endometriosis, lysis of adhesions, cystoscopy, and proctoscopy. Intra-operatively, a left ovarian remnant containing chocolate fluid is noted externally compressing the ureter as well as the inferior hypogastric and obturator nerves.

Results: Once the left ovarian remnant and endometriosis lesions are excised, the left ureter is noted to decompress. Lesions of endometriosis on the bowel are excised using the bowel shaving technique. Post-operatively, the patient reported significant relief.

Conclusions: Ovarian remnants can compress the ureters and nerves. The ureters should be fully evaluated in patients with suspected ovarian remnant who present with back pain. The bowel shaving technique may be used to excise superficial ureter and bowel endometriosis. To

ensure complete removal of the ovary to prevent ovarian remnant syndrome, the IP ligament should be transected close to the pelvic sidewall, at least two centimeters from the ovarian margin.

JLSL 20-082

LAPAROSCOPIC MANAGEMENT OF AN INTERSTITIAL ECTOPIC PREGNANCY

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Objective: An interstitial ectopic pregnancy, also known as a cornual ectopic pregnancy, is rare form of tubal ectopic pregnancy and is associated with a high maternal mortality rate (2-2.5%). The objective of this film is to review the epidemiology, presentation, diagnosis and management of an interstitial ectopic pregnancy.

Methods and Procedures: This film introduces a patient who presented with an interstitial ectopic pregnancy and successfully underwent a laparoscopic cornual wedge resection. The specific technique for performing a laparoscopic cornual wedge resection is described in detail, with a laparoscopic dissector and removal of the specimen with a specimen retrieval bag. Surgical principles for reducing intraoperative blood loss and improving patient outcomes are also reviewed. Lastly, postoperative and fertility outcomes and expectations are discussed.

Results: In this particular case, we were able to successfully perform the procedure using a minimally invasive technique, resulting in minimum blood loss or injury and fertility preservation.

Conclusions: After watching the film, the viewer will be able to diagnose an interstitial ectopic pregnancy on pelvic ultrasound by identifying the "interstitial line sign" and be able to reasonably differentiate it from other forms of ectopic pregnancy. The viewer will also understand the management options including local and systemic methotrexate, as well as surgical options, including laparoscopic cornual wedge resection. The viewer will have a grasp of surgical principles to reduce intraoperative blood loss (eg. administration of tranexamic acid at the start of the procedure, myometrial infiltration with dilute vasopressin, and maintaining view of anatomic landmarks) and the evidence for counseling patients regarding future fertility.

JLSL 20-083

SUCCESSFUL LAPAROSCOPIC RESECTION OF A FOREGUT DUPLICATION CYST IN A YOUNG FEMALE

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Purpose: We present a video presentation of a laparoscopic excision of a subdiaphragmatic foregut duplication cyst in a young adult female.

Methods: A 20 year-old female with no significant past medical or surgical history was found to have a left paraspinal mass in the lesser sac on computerized tomography. A video was obtained with the patient's informed consent of the laparoscopic excision of this mass. Four 5 mm trocars were used.

Results: The video shows the successful complete laparoscopic excision of the paraspinal mass located in the lesser sac. Pathological evaluation of this mass revealed a benign cyst with ciliated epithelium which is consistent with a foregut duplication cyst. This is a rare finding in this patient population.

Conclusion: Successful laparoscopic excision of a foregut duplication cyst can be safely performed in the adolescent and young adult population.

JLSL 20-084

UTERINE DIDELPHYS WITH RESECTION OF A VESICOCOLONIC LIGAMENT AND DEEP INFILTRATING ENDOMETRIOSIS

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Objective: To demonstrate the operative evaluation and safe excision of a rare ligament extending from the bladder to the rectum in a patient with a uterine didelphys, and to safely perform a complete excision of endometriosis prior to in vitro fertilization (IVF).

Design: Video case report.

Methods: A 30-year-old gravida 0 with a history of primary infertility presented to a reproductive endocrinologist (REI) and underwent diagnostic laparoscopy, which demonstrated extensive endometriosis, a uterine didelphys and a thick tissue band extending from the bladder to the rectum (vesico-colonic ligament). Both REI and maternal fetal medicine physicians referred the patient for surgical excision due to concern for pain if the patient achieved pregnancy. She was consented for robotic-assisted excision of this band and excision of endometriosis.

Results: The planned procedure was performed without complication. A urogynecologist removed the vesico-colonic ligament and a minimally invasive gynecologic surgeon performed the resection of endometriosis. On pathology, the connective tissue band demonstrated fibroconnective and adipose tissue with hemosiderin deposition. Right uterosacral, bilateral periureteral and right ovarian biopsies were consistent with endometriosis. The patient has recovered well and is planning IVF with her REI.

Conclusions: A multidisciplinary approach was used for a successful excision of a vesico-colonic ligament and endometriosis.

JLSL 20-085

THORACOSCOPIC REPAIR OF A RECURRENT LEFT CONGENITAL DIAPHRAGMATIC HERNIA AFTER INITIAL OPEN REPAIR

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Objective: Open repair of a congenital diaphragmatic hernia (CDH) has been standard, especially when presented with unfavorable patient conditions for a minimally invasive approach. Recurrence however, can be difficult to manage. Approaching the recurrence via a different cavity may avoid a hostile operative field. We therefore present a thoracoscopic repair of a recurrent left CDH after an initial open repair.

Methods: The patient is a 2 year old male who was born with a left CDH. He was repaired at day of life 10 through an open abdominal approach with mesh. His initial post-operative course was complicated by cardiorespiratory failure requiring ECMO. He presented at 2 years of age and on chest radiograph was found to have a recurrent left CDH. A thoracoscopic approach was selected due to his previous abdominal operations. Light adhesions were encountered. There was very little native diaphragm and no evidence of the previous mesh. The defect measured approximately 6cm x 6cm. A biologic mesh was used. It was secured to the native diaphragm posterolaterally and anteriorly and medially it was secured around the ribs using a suture passing device.

Results: The patient tolerated the procedure well. Post-operatively he did develop a suture sinus infection, but that was well treated with antibiotics. He continues to do well at about three years without evidence of recurrence.

Conclusions: The thoracoscopic approach for recurrent CDH that are initially approached abdominally is technically feasible and allows the surgeon to stay out of a potential difficult abdomen.

WEDNESDAY, SEPTEMBER 16, 2020 STATE OF THE ART IN ROBOTICS

JLSL 20-086

ADVANCES IN IMAGING, IMPLANTS, AND INCISIONS

Ravi Munver MD

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Methods: Advances in robotic surgery have led to improvements in visualization, outcomes, and recovery. This invited state of the art lecture focuses on advances in imaging, implants, and incisions that span the surgical subspecialties of urology, gynecology, and general surgery.

Methods and Procedures: Novel imaging (indocyanine green and 3D augmented reality imaging), implants (umbilical cord/amniotic membrane), and single port surgery are discussed.

Results: Indocyanine green with near infrared imaging facilitates nephroureterectomy in the horseshoe kidney, complex partial nephrectomy with selective arterial clamping, and ureteral identification. 3D augmented reality imaging technology facilitates preoperative planning and intraoperative decision making for robotic renal surgery. Use of a bioregenerative matrix results in improved return of erectile function in patients undergoing robot-assisted radical prostatectomy. Single port robotic surgery is feasible across robotic surgical subspecialties.

Conclusions: Robotic surgery has advanced over the past two decades. A few of the more recent novel advances are described in this state of art robotic surgery lecture.

JLSL 20-087

VIDEO REVIEW OF ROBOTIC SURGICAL CASES AND ITS APPLICATION FOR QUALITY ASSURANCE AND POSSIBLE CREDENTIALING IN ROBOTIC SURGERY

Jay A. Redan

Objective: To evaluate whether video-based review of robotic Surgical Cases can be used to assess surgical skills.

Methods: Retrospective evaluation of 82 surgeon's quantitative analysis using the Global Evaluative Assessment of Robotic Skills (GEARS) Score for metric evaluation. This score evaluates Depth Perception, Bimanual Dexterity, Efficiency, Force Sensitivity, and Robotic Control. Additionally, a description of robotic surgery simulation practices.

Results: 82 Surgeons were evaluated 32.9% showed an improvement of greater than 1.0 GEARS score over their baseline in 2019. Statistically significant less conversion to open and less blood loss. Additionally, a methodology of the Fundamentals of Robotic Surgery is described separately.

Conclusions: Video review of robotic surgery cases is still in its infancy. While new methods of robotic surgery metric evaluation is in progress; the surgical community should start to adapt a more quantitative and qualitative way to assess and maintain surgical skill.

JLSL 20-088

VIRTUAL REALITY IMAGING AND ITS USE IN ROBOTIC SURGERY PRE-PROCEDURAL PLANNING

Michael McDonald

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Objective: To determine if the addition of virtual reality imaging changed the pre-operative surgical plan when performing robotic partial nephrectomies

Methods and Procedures: 15 patients undergoing RAPN underwent a pre-surgical plan based on pre-operative ct/mri scans. All 15 patients had a secondary plan based on VR imaging and plans were compared. All patients underwent surgery based on the VR plan.

Results: 6/15 patients had their pre-surgical plan changed based on VR imaging. 2 patients changed from a transperitoneal to a retroperitoneal approach and 2 patients from a retroperitoneal to a transperitoneal approach. 2 patients had changes based on vascular findings not noticed on preoperative imaging.

Conclusions: Virtual reality imaging may help to improve a surgeons 3-dimensional understanding of the particular anatomy prior to undergoing surgery. Our first 15 cases noted a significant number of changes when determining the surgical approach. Further studies are needed to determine the role of VR as a pre-planning surgical tool

JLSL 20-089

Innovation in Robotic Gynecological Surgery

Mona Orady MD

Center for Advanced Gynecology and Minimally Invasive Surgery at Dignity Health, San Francisco, CA; Robotic Surgery Services at St. Francis Memorial Hospital, San Francisco, CA

Robotics represents yet another revolution in the application of minimally invasive techniques to surgery. While conventional video endoscopic techniques were revolutionary in their own right, they were hampered by limited instrument maneuverability and two-dimensional visualization. These technological shortcomings took away the wrist-like motion of the human hand and the depth perception of human eyes and necessitated the design of "new procedures" which were adapted to the technology. Robotics by virtue of wrist-like instrument maneuverability and three-dimensional visualization has returned the advantages of the human wrist and eyes to the field of minimally invasive surgery. For the first time in the history of minimally invasive surgery, operations which were designed to be performed by open incisions can be replicated using minimal access techniques. This has allowed for unprecedented innovation in surgery allowing us to approach complex cases in gynecology using a minimally invasive approach. Now with the advent of further advances in laparoscopy including mini/micro laparoscopy, percutaneous instruments (needleoscopy) and the CO2 laser and alternate means of energy we can innovate even further to make robotic surgery even less invasive by minimizing size and number of incisions using reduced port and hybrid techniques. This presentation will review innovation in robotic surgery as applied to gynecology highlighting methods of incorporating reduced port and hybrid techniques in common Gynecologic applications

JLSL 20-090

COMPARATIVE ANALYSIS OF ROBOT-ASSISTED AND ABDOMINAL RADICAL HYSTERECTOMY FOR PATIENTS WITH CERVICAL CANCER – 10-YEARS EXPERIENCE

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Objective: To assess and compare overall survival (OS) and disease-free survival (DFS) as well as perioperative outcomes for women with cervical cancer, for whom robotic or abdominal radical hysterectomy was performed.

Methods and Procedures: We analyzed retrospectively women with histologically diagnosed cervical cancer operated by the two surgical methods for the period 2008 - 2018. The data analyzed includes patient and tumor characteristics, perioperative outcomes and disease status. The Kaplan-Meier method and Cox regression analysis were performed in regard to OS and DFS.

Results: There were 1347 patients (341 robotic and 1006 abdominal) included in the study. The median follow-up time for the robotic group was 5.24 years and for the laparotomy group - 4.32 ($p < 0.001$). The Kaplan-Meier analysis demonstrated that robotic cohort had significantly higher survival rate compared to the abdominal group (Cancer specific death 8.5% vs. 16.5% respectively). The mean time to recurrence did not differ significantly by the two types of surgery ($p = 0.495$). Cox multivariate regression showed no statistically significant impact of surgical approach on OS or DFS. Women in the robotic group had significantly shorter median hospital stay (7 vs. 11 days, $p < 0.001$), higher postoperative hemoglobin (116 vs. 108 g/l, $p < 0.001$) and less blood transfusions (7.3% vs. 21.5%, $p < 0.001$). Their overall incidence of postoperative complications was also lower (2.1% vs. 9.4%, $p < 0.001$).

Conclusion: Robotic radical hysterectomy is a safe and sustainable alternative alternative to abdominal surgery, but with better perioperative outcomes. Neither overall survival nor pattern of recurrence differs significantly between both groups.

JLS 20-091

THE INTEGRATION OF ROBOTIC SURGERY INTO MINIMALLY INVASIVE FELLOWSHIP: A NATIONAL SURVEY OF PROGRAM DIRECTORS

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Objective: The incorporation of robotic surgery into minimally invasive/bariatric surgical (MIS) training has had far-reaching implications, yet fellowship robotic training is neither standardized nor well-described. The aim of our study was to evaluate the current state of robotics in MIS fellowship training.

Methods: A web-based survey was sent to all ACGME-accredited MIS/bariatrics fellowships within the US and Canada to query program director perspectives on robotic training.

Results: Of 122 MIS programs, 87 (71.3%) responded – 68 (78.2%) were university-affiliated, 19 (21.8%) independent. Of 81 institutions offering robotic surgery, 90.1% ($n = 73$) have integrated robotics into training with fellows operating as primary surgeon at the console. On average, robotics account for 32% of total case volumes and 42 (51.9%) programs have a formal curriculum, most commonly including faculty-directed console time, case observation, and virtual robotic simulators. There were no significant differences in robot use, presence of formal curriculum, or procedures by program type or region ($p > 0.05$). Yet, university-affiliated programs were more likely to have fellows actively participate as the primary surgeon in robotic cases (OR 4.2, 0.9-19.0, $p = 0.048$) and more likely to have dual consoles (OR 5.3, 1.7-16.6, $p = 0.003$).

Conclusion: Nearly all MIS fellowships have incorporated robotics into their surgical training. However, robotic curriculum is widely variable between programs, as is the opportunity for fellows to operate as primary surgeon on the console or receive real-time faculty guidance with dual console availability. With robotics accounting for nearly a third of MIS fellowship cases, standardized robotic curricula may be beneficial to complement existing standardized, industry-sponsored robotic simulation training modules.

JLS 20-092

TEN YEAR TRENDS IN MIS FELLOWSHIP

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Objective: Minimally invasive surgery (MIS) remains one of the newer surgical fellowships, and many general surgery trainees attribute advanced laparoscopic surgical exposure as a major motivator to apply

to MIS. We sought to examine the overall level of desirability of MIS fellowships through review of national application data.

Methods: We reviewed and analyzed the fellowship match statistics from The Fellowship Council, the organizing body of the MIS fellowship match. Data from 2008-2019 were included. We compared match rates to other specialties using the National Resident Matching Program, the non-profit organization which coordinates matches into US residency and some fellowship programs.

Results: In 2008, there were 124 certified MIS fellowship programs in The Fellowship Council. Ten years later this number increased to 141. The rate at which programs filled their positions has also increased, from 83% initially, to 97% in 2019. While there has been a 19% increase in available positions in the past ten years, the number of applications has ballooned by 36%. During this interval, the match rate into MIS among US applicants has fallen from 82% to 71%. Comparing to pediatric surgery, surgical oncology, vascular surgery, and surgical critical care, 2019 match rates were 50%, 56%, 99%, and 100% respectively.

Conclusion: MIS remains a popular specialty choice, with increasing numbers of US residents seeking to pursue fellowship over the past decade. As popularity grows, it has become increasingly competitive to match into a fellowship position.

JLS 20-093

TOTAL ROBOTIC BILIOPANCREATIC DIVERSION WITH DUODENAL SWITCH (RBPDDS) OUTCOMES

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Objective: The first robotic biliopancreatic diversion with duodenal switch (RBPDDS) was performed in 2000 with bedside assistance. Subsequently, single dock robotic surgery has yielded a reduction of co-morbidities associated with a morbidly obese body mass index (BMI), including durable decrease in diabetes and hypertension, and excess weight loss. The purpose of this study is to assess clinical outcomes for patients undergoing RBPDDS.

Methods and Procedures: Retrospective chart review was performed for 49 patients from December 2012 to August 2016. All procedures were performed by a single surgeon. Patient outcomes were evaluated including ICU stay, operative revisions post-RBPDDS, surgical site infections, hemorrhage, obstruction, and improvement in patient co-morbidities. Follow up (FU) was assessed to 2 years post-surgery.

Results: Patient population included 33 females and 16 males with mean age of 42 years and average BMI of 59.27. Average operating time was 203 minutes. Pre-existing conditions included diabetes (33%) and hypertension (71%). FU at six months showed resolution of diabetes in all of the affected study subjects and decreased frequency of hypertension (10%); total reduction at final FU of 2 years demonstrated durable resolution of diabetes, further decreased in patients with hypertension (2%), and average BMI of 29.9. Post-operative complications were experienced by 17 subjects within 90 days of procedure, which included acute blood loss anemia, intraabdominal abscess, hematoma, pneumonia, and DI leak. There were no mortalities.

Conclusion: Total RBPDDS is a safe and effective procedure to lose weight and decrease co-morbidities associated with a morbidly obese BMI, including diabetes and hypertension.

JLS 20-094

ROBOTIC SINGLE PORT (SP) CHOLECYSTECTOMY-INITIAL EXPERIENCE

Francesco Maria Bianco, Yevhen Pavelko, Stephan Gruessner, Roberto Bustos, Ahmad Nourallah, Pier Cristoforo Giulianotti

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Introduction: The single port robotic surgical platform represents the latest technical advancement in robotic surgery. The system is based on a single robotic arm with a trocar that hosts 3 instruments and camera. We present our initial experience on the utilization of this platform to perform cholecystectomies under IRB approval. To our knowledge, this is the largest case series presented on this technique.

Methods: 40 total (34 elective, 6 while admitted) cholecystectomies were performed. The first 20 patients were selected cases only; acute cholecystitis and porcelain gallbladders were excluded. Starting from case 21 no selections were made. Of note there were 3 acute cholecystitis, 2 chronic cholecystitis, 3 choledocholithiasis status-post ERCP, 3 hydropic gallbladders, and 1 porcelain gallbladder.

Results: The patients mean BMI was 35.6kg/m² (21.3-60.9 kg/m²). Mean operative time (skin-fascia) 51.8± 28min. Mean EBL 5mL. Mean docking time 3.3± 3min, and console time 18.6± 16min. All outpatient patients were discharged same day with mean time of 115 ± 42min; one patient was admitted for nausea and discharged on POD#1. Out of 6 patients who were already admitted, 3 were discharged on POD#1, 1 discharged POD#2, and 2 discharged POD#3. There were no conversions, extra ports placed, or postoperative complications.

Conclusions: The use of the new single port robotic platform for cholecystectomy is safe and feasible. The flexible camera and elbowed instruments offer better visualization and retraction, allowing us to expand our selection criteria. The preliminary results are promising; further studies are needed to evaluate potential of this technology in general surgery.

JLS 20-095

A SINGLE INSTITUTION'S EXPERIENCE WITH ROBOTIC FUNDOPLICATION IN HIGH-RISK PATIENTS

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Background: This study was undertaken to analyze our outcomes after robotic fundoplication for failed anti-reflux funduplications, type IV hiatal hernias, or after extensive intra-abdominal surgery and to compare those outcomes to outcomes predicted by the American College of Surgeons NSQIP Surgical Risk Calculator.

Methods: With IRB approval, from 2017 to 2019, 100 patients undergoing robotic fundoplication for failed anti-reflux funduplications, type IV hiatal hernias, or after extensive intra-abdominal surgery were prospectively followed. Our outcomes were compared with predicted and national outcomes calculated using the NSQIP Risk Calculator and NSQIP. Data are presented as median.

Results: 100 patients, aged 67years with BMI of 26kg/m² underwent robotic fundoplication for failed anti-reflux funduplications(43%), type IV hiatal hernias(31%), or after extensive intra-abdominal surgery with mesh(26%). Operative duration was 184 minutes (196±74.3) with an EBL of 24mL. LOS was 1day. 2 patients developed postoperative ileus. 2 patients were readmitted within 30 days for nausea. Nationally reported outcomes and those predicted by NSQIP were similar. Actual outcomes were superior than predicted by NSQIP for serious complications, any complications, pneumonia, surgical site infection, deep vein thrombosis, readmission, return to OR and sepsis ($p < 0.05$). Actual outcomes were not different to predicted and national outcomes for renal failure, deaths, cardiac complications, and discharge to a nursing facility.

Conclusions: Our patients were not a selective group. Most of our results after robotic fundoplication were superior to predicted and/or national outcomes. The utilization of the robotic platform to treat high risk patients with GERD/giant hiatal hernias is safe and efficacious.

JLS 20-096

ROBOTIC SINGLE PORT (SP) TAPP INGUINAL HERNIA REPAIR, A PRELIMINARY REPORT OF A NOVEL APPROACH

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Objective: Robotic inguinal hernia repairs are among the fastest growing robotic surgeries nationwide. The multiport approach has been widely adopted by the surgical community, whereas the robotic single site approach has encountered limited adoption. This may be due to the excessive flexibility and decreased dexterity of the instruments, which can limit the ability to reduce the hernia sac and suture. The new robotic surgical platform has overcome many of the restrictions of the single incision technique. We present our experience with the first reported series of Transabdominal Preperitoneal (TAPP) inguinal hernia repairs utilizing a robotic surgical platform.

Methods and Procedures: 21 consecutive patients underwent SP TAPP inguinal hernia repair: 4 bilateral, 17 unilateral. Demographics were collected, and analysis was focused on EBL, operative time (OT), length of stay (LOS), peri-, and post-operative complications.

Results: 21 men, with an average age of 50.2years (range 19–79) and an average BMI of 26.0kg/m² (range 20.4–32.8), underwent SP TAPP repair. Average OT for unilateral and bilateral hernias were 81.4±15.0 min and 109.8± 16.8min, and console times were 41.1± 9.12min and 75.0± 7.8min respectively. The EBL was minimal in all patients at 5mL. There were no transfusions, conversions, additional ports placed, or peri/post-operative complications. All patients were discharged home from recovery.

Conclusion: The application of the SP robot in TAPP hernioplasty is safe and feasible. The new platform allows for optimal exposure, adequate suturing, and dissection of the preperitoneal space. Further inquiry is required to determine the full potential of the robotic surgical platform.

JLS 20-097

ROBOTIC INGUINAL HERNIA REPAIR - AN EXPERIENCE OF 233 CASES WITH LEARNING CURVE ANALYSIS

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Objective: The robotic approach for inguinal hernia repair has advantages over the standard laparoscopic approach due to improved dexterity and high definition visualization. The objective of this study is to evaluate the outcomes and learning curve for robotic inguinal hernia repairs.

Methods and Procedures: Robotic inguinal hernia operations were undertaken between 2015 and 2019. Data are presented as median (mean, ± standard deviation).

Results: Three hundred and ten inguinal hernia repairs were undertaken in 233 patients. Unilateral repairs were undertaken in 156 patients and bilateral repairs in 77 patients. Age was 61 years (60, ± 14.8) and 92% (214) were men. The overall BMI was 27 (28, ± 5.0). The operative time for unilateral and bilateral repairs was 53 (56, ± 23.2) and 71 minutes (80, ± 36.9), respectively. There were 13 recurrences, 6 (3.8%) after unilateral and 7 (4.5%) after bilateral repairs. In unilateral repairs, operations 1–40 (the initial phase) had higher recurrence and operative time compared to operations 41–156 (the proficient phase). The operative time was 61 minutes for the initial phase and 51 minutes for the proficient phase of unilateral repairs ($p = 0.04$). The operative time remained unchanged for bilateral repairs. Postoperative

complications were seen in 31 (13%) cases. Complications included urinary retention (12), seroma/hematoma (11), surgical site infection (6), and intraoperative injuries (vas deferens - 1, enterotomy - 1). **Conclusion:** Robotic inguinal hernia repair is technically feasible and safe with a low recurrence rate. Proficiency for robotic inguinal hernia repairs can be reached after 40 operations.

JLS 20-098

LOWER PREALBUMIN IS ASSOCIATED WITH WORSE OUTCOMES FOLLOWING ROBOTIC-ASSISTED PULMONARY LOBECTOMY

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Objective: Lower prealbumin has been associated with increased number of postsurgical complications, including prolonged hospital length of stay (LOS) and death. This study aims to investigate the influence of postoperative prealbumin on peri-operative and long-term outcomes following robotic-assisted video thoracoscopic surgery (RAVTS) for lung cancer.

Methods and Procedures: We retrospectively reviewed 461 consecutive patients who underwent RAVTS by one surgeon for known or suspected lung cancer. Peri-operatively, the first postoperative, lowest postoperative, and discharge prealbumin values were recorded. Patients were grouped as having normal (≥ 15 mg/dL) versus low (< 15 mg/dL) prealbumin. Operative skin-to-skin time, estimated blood loss, incidence of post-operative complications, chest tube duration, hospital LOS, and in-hospital mortality were compared between groups using Pearson Chi-Square and Student's t-test. Kaplan-Meier analyses were also performed to estimate survival for each prealbumin group.

Results: Our study population comprised of 436 patients. First postoperative prealbumin below 15mg/dL was associated with longer LOS (6.93 vs 5.55 days, $p = 0.019$). Additionally, lowest postoperative prealbumin below 15mg/dL was associated with more postoperative complications (72.2% vs 27.8%, $p < 0.001$), longer chest tube duration (6.86 vs 4.58 days, $p = 0.001$), and longer LOS (7.03 vs. 4.37 days, $p < 0.001$). In survival analysis, lower discharge prealbumin was found to be associated with decreased 3-year (64% vs 78%, $p = 0.007$) and 5-year (48% vs. 63%, $p = 0.004$) survival, but not for 1-year survival (86% vs 90%, $p = 0.205$).

Conclusion: Lower prealbumin at certain postoperative time points is associated with more post-operative complications, longer chest tube duration and hospital LOS, and decreased overall survival following robotic-assisted pulmonary lobectomy.

JLS 20-099

AN ALGORITHMIC APPROACH TO USING AN AMNIOTIC MEMBRANE AND UMBILICAL CORD REGENERATIVE MATRIX FOR ERECTILE FUNCTION RECOVERY FOLLOWING NERVE-SPARING ROBOT-ASSISTED RADICAL PROSTATECTOMY

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Objectives: Application of an amniotic membrane and umbilical cord regenerative matrix for the regulation of inflammation and prevention of scar tissue formation may potentially improve the return of erectile function following radical prostatectomy. We report our algorithmic approach to using amniotic membrane nerve wrap in patients undergoing bilateral nerve-sparing (NS) robot-assisted radical prostatectomy (RARP).

Methods and Procedures: Following IRB approval, a review of patients that underwent NS-RARP by a single surgeon was performed. An algorithm was developed to utilize the implant for patients that were sexually potent preoperatively without phosphodiesterase (PDE)-5 inhibitor medication (IIEF/SHIM score > 21), received an athermal bilateral nerve-sparing procedure, and adherence to a penile rehabilitation program pre/postoperatively.

Results: 21 patients met inclusion criteria with mean age 62 (range 52–73), BMI 27 (range 24–32), and preoperative SHIM 23 (range 22–25). Mean operative time was 190 minutes (range 145–251), blood loss 218 mL (range 100–360 mL), and LOS 1.14 days (range 1–2 days). Patients that underwent excellent athermal NS procedure ($n = 16$, group 1) were compared to patients that underwent a fair/poor NS procedure ($n = 5$, group 2). Potency rates were 37.5% (group 1)/20% (group 2) at 3 months, 75% (group 1)/60% (group 2) at 6 months, and 88% (group 1)/60% (group 2) at 12 months.

Conclusions: The application of an algorithmic approach for the selective use of an amniotic membrane nerve wrap during nerve-sparing RARP is judicious in terms of utilizing this implant for patients that are more likely to recover erectile function.

JLS 20-100

TECHNIQUE FOR RETROGRADE ROBOTIC HYSTERECTOMY FOR MANAGEMENT OF DENSE BLADDER ADHESIONS

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Objective: We aim to show a technique for performing retrograde dissection of densely adherent bladder from anterior uterine wall during robotic-assisted laparoscopic hysterectomy.

Methods and Procedures: Many women who undergo hysterectomy have a history of prior cesarean sections. Some of these women form dense adhesions between the uterus and bladder that pose risk of injury to bladder and ureters during hysterectomy. Here, we show a technique for performing a retrograde hysterectomy in which all major blood supply to the uterus is sealed and the colpotomy completed prior to bladder adhesiolysis. Furthermore, we show a technique for retrograde dissection of the bladder from uterine wall starting inferiorly at the level of the cardinal ligaments and working superiorly towards the fundus of the uterus. With this technique, there is early control of vascular supply thus decreasing intraoperative blood loss, direct visualization of ureters thus decreasing risk of injury, and a 360-degree access to bladder adhesions once colpotomy is complete in order to safely perform adhesiolysis. We show dissection of the pararectal and paravesical spaces, bilateral ureterolysis, and sealing of uterine artery at its origin.

Results & Conclusion: Significant anterior adhesions between uterus and bladder create a challenge for safe completion of hysterectomy without injury to lower urinary tract. Performing a retrograde hysterectomy allows early control of blood supply, constant visibility of ureters, and access to inferior bladder adhesions. These techniques can be used to safely perform robot-assisted laparoscopic hysterectomy in patients with dense uterine adhesions to the bladder.

JLS 20-101**KEEPING AN EYE ON THE ENEMY: LAPAROSCOPIC & ROBOTIC RETROPERITONEAL ENTRY AND URETEROLYSIS****Jeffrey J. Woo***Scripps Clinic, San Diego, CA, USA***Objective:** Discuss the most common causes of ureteral injury during gynecological surgery. Discuss the avoidance of ureteral injury.

Demonstrate, with surgical videography, laparoscopic and robotic assisted laparoscopy retroperitoneal entry and ureteral identification and dissection to educate medical students, OB/GYN residents, OB/GYN fellows, and attending physicians.

Methods and Procedures: A surgical video demonstrating traditional and robotically assisted laparoscopy techniques to identify and dissect the ureter.**Results:** N/A.**Conclusion:** A keen understanding and knowledge of gynecological and urological anatomy plays an important role in the prevention of urinary tract injury during gynecologic surgery. The primary approach to prevention of ureteral injury is careful surgical dissection and knowledge of the position of urinary tract structures within the surgical field.**JLS 20-102****ROBOTIC ASSISTED PARTIAL HEPATECTOMY AND PARTIAL NEPHRECTOMY FOR SOFT TISSUE SARCOMA****Kevin Choong, Pooya Banapour, Michael O'Leary, Clayton Lau, Gagandeep Singh***City of Hope National Medical Center, Duarte, CA, USA***Objective:** Robotic assisted surgery is becoming more prevalent. Recently, robotic multivisceral hepatobiliary resections have been described. Here we present a case of robotic assisted partial right nephrectomy and partial hepatectomy for Ewing sarcoma of the kidney.**Methods/Procedures:** We utilized a robotic surgical system in our approach to a right partial nephrectomy and partial hepatectomy. The patient was positioned in left lateral decubitus and four robotic trocars were placed in the right midaxillary line and two assistant ports were placed in the midline. Intraoperative ultrasound was utilized to determine tumor size, extent of invasion, and appropriate surgical margin. The operation proceeded as follows: 1) mobilization of right colon, 2) identification of ureter and gonadal vessels, 3) dissection of renal hilum, 4) lateral release of the kidney, 5) hepatic parenchymal transection, 6) renal parenchymal transection, and 7) repair of the partial nephrectomy defect.**Results:** A 27-year-old male presented with a large extraskelatal Ewing sarcoma involving the right kidney involving the liver. He subsequently underwent neoadjuvant chemotherapy with significant tumor response. He was then taken for a robotic assisted partial nephrectomy and partial hepatectomy. Estimated blood loss was 200 ml. The patient was discharged to home on early post-operative day #3. His pathology was consistent with a completely treated tumor with negative margins. Patient is currently undergoing adjuvant chemotherapy without complication.**Conclusion:** Complex oncologic robotic multivisceral resections can be safely performed in select patients in centers with surgical expertise and multidisciplinary care.**JLS 20-103****ROBOTIC CAUDATE LOBE RESECTION FOR OLIGOMETASTATIC HEPATIC COLORECTAL CANCER****Michael P. O'Leary, Susanne G. Warner, Laleh G. Melstrom, James P. De Andrade, Vienna I Benavides, Andrew L Shover, Yuman Fong, Gagandeep Singh***City of Hope National Medical Center, Duarte, CA, USA*

The liver is the most common site for distant metastases in colorectal cancer. Resection of colorectal liver metastases (CRLM) improves 5-year overall survival and may be curative. Use of minimally invasive surgery for otherwise incision-dominant resections can improve quality of life for patients while maintaining oncologically sound operative principles. In this video, we describe robotic resection of Couinaud segment I (caudate lobe) for a metachronous CRLM in a 71-year-old male. He originally underwent laparoscopic sigmoid colectomy two years prior. Pathology showed a T2N0 (0 of 21 lymph nodes involved) low-grade adenocarcinoma, microsatellite stable, BRAF wild type, KRAS mutant. On routine surveillance imaging, he was noted to have a new solitary 1.6 cm mass in the caudate lobe. After a multidisciplinary discussion, the patient underwent robotic assisted caudate lobe resection. The procedure was uncomplicated, with less than 50 mL estimated blood loss. The patient was discharged to home on post-operative day three. Final pathology confirmed 1.6 cm metastasis with negative margins, consistent with colon primary.

In this video, we demonstrate a robotic approach to this patient's caudate lobe resection. Key steps to resection include hepatic mobilization off the IVC in the superior and inferior planes, followed by posterior dissection to ligate the short hepatic veins. Lastly, parenchymal transection occurs by freeing the caudate lobe from the remnant liver and IVC. Minimally invasive liver surgery should be considered whenever feasible within the confines of surgeon experience and principles of oncologic surgery.

**THURSDAY, SEPTEMBER 17, 2020
REPLAY – AWARD-WINNING
PRESENTATIONS****JLS 20-001****★ Medical Educator Consortium Award for Best Scientific Paper****CORRELATION BETWEEN STAGING WITH PREOPERATIVE MAGNETIC RESONANCE IMAGING (MRI) AND TRANSANAL MINIMAL INVASIVE SURGERY (TAMIS) SPECIMEN PATHOLOGY**

See page. 1.

JLS 20-105**★ Michael S. Kavic Award for Best Scientific Paper by a Resident****LAPAROSCOPIC UTEROSACRAL LIGAMENT SUSPENSION COMPARED TO SACROSPINOUS LIGAMENT FIXATION: COMPLICATIONS AND RECURRENCE RATE**

See page. 6.

JLSL 20-033

★ *Carl J. Levinson Award for Best Video*

**MEASURES TO PREVENT TUMOR SPILLAGE IN
LAPAROSCOPIC SURGERY AND OUTCOME OF TOTAL
LAPAROSCOPIC AND ABDOMINAL RADICAL
HYSTERECTOMY FOR FIGO 1B1-2 CERVICAL CANCER**

See page. 10.

JLSL 20-034

★ *Harrith M. Hasson Award for Best Presentation
Promoting Education or Training*

**USE OF AN ORANGE AND CHICKEN BREAST IN
SIMULATION TRAINING OF THE EXCITE MODEL: A
VIDEO DEMONSTRATION**

See page. 10.

JLSL 20-038

★ *Gustavo Stringel Award for Best Poster*

**ISTHMO-NEOVAGINA ANASTOMOSIS AFTER LUOHU
VAGINOPLASTY IN MRKH SYNDROME PATIENTS WITH
FUNCTIONAL RUDIMENTARY CAVITIES**

See page. 11.

JLSL 20-039

★ *Gustavo Stringel Award for Best Poster by a Resident*

**RESIDENT IMPACT ON LAPAROSCOPIC
SACROCOLPOPEXY OUTCOMES**

See page. 11.

JLSL 20-055

★ *Paul Alan Wetter Award for Best Multispecialty
Scientific Paper*

ROBOTIC VASCULAR SURGERY – 470 CASES

See page. 15.